



TETRA TECH

March 11, 2020

Mr. Mike Eder
Montana Department of Environmental Quality
Solid Waste
PO Box 200901
Helena, Montana 59620-0901

**RE: Final 2018/2019 Remediation System Evaluation Report
Bozeman Landfill, Bozeman, Montana**

Dear Mr. Eder:

On behalf of the City of Bozeman, we have conducted an evaluation of the operation of the Landfill Gas Extraction System and Soil Vapor Extraction Remediation Systems at the former Story Mill Landfill in Bozeman, Montana. This report includes review of the operation of the various systems comprising the expanded remediation system. Groundwater quality data collected through June 2019 is evaluated in regard to what effect the remediation systems are having on groundwater quality and landfill gas migration.

On June 6, 2014, Montana Department of Environmental Quality (DEQ) issued a letter requiring the City to initiate a Corrective Measures Assessment (CMA). A Revised Corrective Measures Assessment was completed in September 2014 (Tetra Tech, 2014) that led to the design and implementation of the expanded remediation system in 2016. This report is a continuation of the DEQ requirements to implement remedial measures and show that they are effectively addressing the impacts to groundwater and landfill gas migration. This report includes recommendations for changes to the remediation systems to improve performance, reduce costs and improve groundwater quality.

Please contact me with any questions or comments on this report. The City of Bozeman is moving forward with implementing the recommendations presented in this report.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kirk A. Miller'.

Kirk A. Miller
Project Manager

Enclosure: Final 2018/2019 Remediation System Evaluation Report, dated March 10, 2020 (2 hard copies, 1 electronic copy on USB drive).

FINAL 2018/2019 REMEDIATION SYSTEM EVALUATION, BOZEMAN LANDFILL BOZEMAN, MONTANA

#114-710326D
March 11, 2020

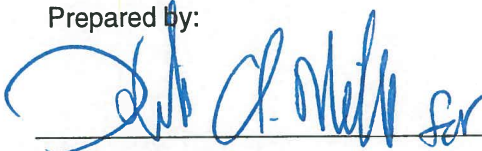
PRESENTED TO

City of Bozeman
Mr. Shawn Kohtz, PE City Engineer
PO Box 1230
Bozeman MT 59771-1230

PRESENTED BY

Tetra Tech P +1-406-582-8780
851 Bridger Drive, Suite 6 F +1-406-825-8790
Bozeman, MT 59715 tetratech.com

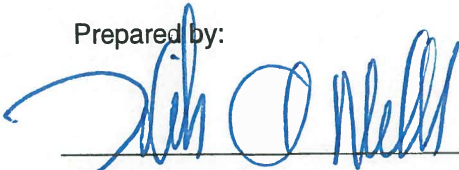
Prepared by:



Mark F. Pearson
Project Hydrogeologist

Date

Prepared by:



Kirk A. Miller
Senior Project Manager

March 11, 2020

Date

TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 BACKGROUND INFORMATION	1
2.1 LOCATION AND CURRENT OPERATIONS	1
2.2 RECENT INVESTIGATIONS	2
2.3 LANDFILL HISTORY AND PREVIOUS INVESTIGATIONS	3
2.4 GROUNDWATER MONITORING SINCE 1997	4
2.5 ENVIRONMENTAL SETTING	4
2.6 LAND USE AND OWNERSHIP	6
3.0 METHODS	7
3.1 GROUNDWATER MONITORING	7
3.1.1 Water Level and Field Parameter Measurements	8
3.1.2 Groundwater Sampling	8
3.2 LANDFILL GAS EXTRACTION AND SOIL VAPOR EXTRACTION SYSTEMS MONITORING	9
3.2.1 Landfill Gas Extraction Well GW-18A	9
3.2.2 System Monitoring	9
3.2.3 Assessment of Soil Vapor Extraction Radius of Influence	10
3.3 AIR INJECTION SYSTEM MONITORING	11
3.4 LEACHATE / CONDENSATE COLLECTION	12
4.0 DATA PRESENTATION AND ANALYSIS	12
4.1 GROUNDWATER ELEVATIONS	13
4.2 VOCs IN GROUNDWATER	13
4.3 LANDFILL GAS EXTRACTION SYSTEM	15
4.4 SOIL VAPOR EXTRACTION SYSTEM	16
4.3.1 Soil Vapor Extraction System Operational Data	16
4.3.2 Assessment of SVE Radius of Influence	16
4.4 AIR INJECTION SYSTEM PERFORMANCE	18
4.5 CONDENSATE AND LEACHATE COLLECTION SYSTEM	19
5.0 SUMMARY AND CONCLUSIONS	20
6.0 RECOMMENDATIONS	21
7.0 REFERENCES	23

LIST OF TABLES

TABLE 1.	Well Selection Criteria For Quarterly Sampling Events
TABLE 2.	SVE Well Configurations for Radius of Influence Test 4
TABLE 3.	Summary of Selected Volatile Organic Compounds at Sampling Locations
TABLE 4.	Performance of Landfill Gas Extraction System
TABLE 5.	Landfill Gas Field Monitoring Data
TABLE 6.	Soil Vapor Extraction Field Monitoring Data
TABLE 7.	Summary Data Table and Results for Soil Vapor Extraction System Radius of Influence Tests
TABLE 8.	Summary of Estimated and Inferred Radius of Influence
TABLE 9.	Total Air Flow through Air Injection Wells
TABLE 10.	Air Flow through Air Injection Wells on June 6, 2019

LIST OF FIGURES

FIGURE 1.	Site Plan
FIGURE 2.	Groundwater Monitoring Locations
FIGURE 3.	Landfill Gas Extraction System and Monitoring Network
FIGURE 4.	Soil Vapor Extraction and Air Injection System Wells
FIGURE 5.	Stratigraphic Cross Sections
FIGURE 6.	SVE Wells shut off for Tests 1, 2 and 3
FIGURE 7.	June 2019 Groundwater Contour Map
FIGURE 8.	Groundwater Elevations Since 1994
FIGURE 9.	MW-13 and LF-3 Water Levels and Bozeman Precipitation
FIGURE 10.	VOC Concentrations and Groundwater Elevations since 1994
FIGURE 11.	VOC Concentrations in Wells Near Southern Boundary
FIGURE 12.	VOC Concentrations and Groundwater Elevations in MW-17, MW-18 and MW-20 Since 2014
FIGURE 13.	VOC at Wells LF-3 and MW-20
FIGURE 14.	Landfill Gas Field Parameters at Flare
FIGURE 15.	VOC Concentrations Downgradient of LFGES
FIGURE 16.	Soil Vapor Extraction Field Parameters at Flare
FIGURE 17.	Normalized SVE ROI Test Graphs for SVE-1 and SVE-2
FIGURE 18.	Normalized SVE ROI Test Graphs for SVE-4 and SVE-11
FIGURE 19.	Radius of Influence Results and Lithology

APPENDICES

APPENDIX A – DEQ CORRESPONDENCE

APPENDIX B – GROUNDWATER SAMPLING LOGS – MARCH 2019, SEPTEMBER 2019

APPENDIX C – LABORATORY REPORTS – MARCH 2019, SEPTEMBER 2019

APPENDIX D – DATA VALIDATION REPORTS

APPENDIX E – LGES WELL LOG GW-18A

APPENDIX F – RADIUS OF INFLUENCE FIELD DATA FORMS AND BAROMETRIC PRESSURE DATA

1.0 INTRODUCTION

The objective of this Initial Remediation System Evaluation report is to review the operation and effectiveness of the remediation system at the City of Bozeman's Landfill (Bozeman Landfill) on Story Mill Road (**Figure 1**). This landfill has also been referred to as the Story Mill Landfill in other documents. The upgrades to the Landfill Gas Extraction System (LFGES) and the new remediation system installed in 2016 (Soil Vapor Extraction and Air Injection (SVE/AI) system) were required as the result of a June 6, 2014 Montana Department of Environmental Quality (DEQ) letter (**Appendix A**) requiring the City of Bozeman (City) to initiate a Corrective Measures Assessment (CMA) of offsite groundwater impacts downgradient of the landfill. DEQ rules (ARM 17.50.1308) require the owner or operator of a facility, which has detected an exceedance of groundwater protection standards, to initiate an assessment of corrective measures and submit to the DEQ a report describing an assessment of corrective measures.

A Revised CMA was completed in September 2014 (Tetra Tech, 2014) that updated a 1995 CMA (Maxim, 1995). This report is designed to show compliance with the monitoring requirements of DEQ's solid waste rules relative to CMAs, and progress towards meeting closure requirements.

Background information on the landfill, its history, environmental setting, previous investigations and previous remediation activities is presented in Section 2. Methods of evaluation and monitoring activities are presented in Section 3. Analysis of the collected data relative to evaluation of the effectiveness of the LFGES and SVE/AI system are presented in Section 4. Summary and Conclusions are presented in Section 5. Recommendations for future actions are included in Section 6. And References cited are listed in Section 7. Tables, Figures, and Appendices are presented at the end of the document.

The new LFGES and the SVE/AI remediation system began operation on August 9, 2016, and have continuously operated since that time. Monitoring and maintenance of these systems have been conducted on a routine basis to ensure continuous operation. Groundwater monitoring activities, at selected wells, have been conducted on a semi-annual basis since 1995 and on a quarterly basis from August 2016 until June 2019. Groundwater monitoring and preparation of this report have been conducted in accordance with 2018 and 2019 Task Orders Groundwater and Perimeter Methane Monitoring Assessment of System Performance and Effectiveness (Tetra Tech 2018, Tetra Tech 2019). This report updates the findings presented in *Initial Remedial System Evaluation Report, Bozeman Landfill*, dated March 9, 2018.

This report includes the results of a new landfill gas installation program, landfill gas system radius of influence testing, quarterly groundwater monitoring and a surface emissions sweep; all of which were recommendations from the *Initial Remedial System Evaluation* report. Additional reports summarizing ongoing groundwater monitoring events will be prepared as part of the semi-annual groundwater monitoring requirements of DEQ's Solid Waste Program for the Bozeman Landfill.

2.0 BACKGROUND INFORMATION

This section provides an overview of the Story Mill landfill and its history of operation and environmental investigations. This includes discussion of the location of the landfill, current operations, recent investigations, landfill history and previous investigations, groundwater monitoring, site environmental setting, and land use and ownership.

2.1 LOCATION AND CURRENT OPERATIONS

The Bozeman Landfill (also referred to as the Site) is located between Story Mill Road and McIlhattan Road on the western flanks of the Bridger Mountains (**Figure 1**). The Site is located in Section 30 of Township 1 South,

Range 6 East in Gallatin County. The Site consists of two historic closed landfill cells and some active operations (e.g., composting, recycling, and hazardous material collection). One of the closed cells is an unlined cell and the other is a lined cell. Both cells accepted Class II, III, and IV wastes, which were solid, non-hazardous, household, industrial, commercial, municipal, construction and demolition-related wastes. The City disposed some of its own Class IV wastes (construction and demolition related) in a small cell north of the unlined cell. Waste and recyclables are currently accepted in containers located at the Bozeman Convenience Site at the southeast corner of the landfill property. These containers are transported offsite. Waste is transported to the Gallatin County Landfill at Logan.

2.2 RECENT INVESTIGATIONS

In 2014, during routine sampling of groundwater in monitoring wells surrounding the landfill, concentrations of tetrachloroethene, which is also known as PCE, were detected in MW-20 (**Figure 2**), an off-site monitoring well (Tetra Tech, 2014a). Concentrations of PCE in MW-20 were 10.6 micrograms per liter ($\mu\text{g/L}$) in a sample taken on March 25, 2014. Subsequent resampling of groundwater in MW-20 yielded a sample concentration of 9.4 $\mu\text{g/L}$. Montana's human health standard for PCE in groundwater is 5 $\mu\text{g/L}$ (DEQ, 2012). Montana Department of Environmental Quality (DEQ) rules (ARM 17.50.1308) require the owner or operator of a facility which has detected an exceedance of ground water protection standards to initiate an assessment of corrective measures and submit to the DEQ a report describing an assessment of corrective measures. On June 6, 2014, DEQ issued a letter (see **Appendix A**) requiring the City of Bozeman (City) to initiate the Corrective Measures Assessment (CMA) described above. A Revised CMA was completed in September 2014 (Tetra Tech, 2014) that updated a 1995 CMA (Maxim, 1995).

Prior to the discovery of PCE concentrations exceeding groundwater standards at MW-20, the City proactively initiated an investigation into the potential for Vapor Intrusion (VI) into homes in the Bridger Creek Phase 3 and 2 subdivisions (**Figure 3**). Vapor Intrusion is defined by Montana DEQ as "the process by which volatile chemicals move from beneath the ground into the indoor air of overlying buildings" (DEQ 2011). The City initially collected air samples from perimeter methane monitoring wells (BLG- wells) along the south boundary of the landfill for analysis of selected VOCs specific to what had impacted groundwater at the site. The locations of these BLG-wells are shown in **Figure 4**. Analytical results were compared with EPA's Regional Screening Levels (RSLs) for residential air. No screening levels for air were available from Montana DEQ. VOC concentrations above the EPA's RSLs for residential air were observed for a number of VOCs. RSLs are established by the EPA as the concentration at which further investigation is warranted; they are not cleanup levels.

The presence of VOCs above EPA RSLs at the landfill south boundary prompted the City to install soil gas probes (BSV- probes) in the Bridger Creek Phase 3 Subdivision (**Figure 3**) to further define the extent of selected VOCs in subsurface soils. Some VOC concentrations in these probes were also above RSLs. These results prompted the City to initiate an indoor air sampling program of all participating residences in the Bridger Creek Phase 3 subdivision. Four residences in the Bridger Creek Phase 2 subdivision were also selected for air sampling. Permission was received from all twenty-eight homeowners in the Bridger Creek Phase 3 subdivision and four homeowners in the Phase 2 subdivision to collect air samples from inside and beneath their homes.

Concentrations of some VOCs above their respective RSLs and/or Minimal Risk Levels (MRLs), established by the Agency for Toxic Substances & Disease Registry (ASTDR), were observed in subslab samples (samples collected from beneath homes) in Bridger Creek Phase 3. The City offered to install in-house mitigation systems to all residents of the Phase 3 Subdivision. The City installed systems in all but one of the homes in the Bridger Creek Phase 3 subdivision. One landowner was not living in their home and had planned major renovations and requested to not have a mitigation system installed. The in-house mitigation systems are similar to radon removal systems. These consist of penetrations through home concrete slabs upon which a vacuum is applied; or, for homes with a crawl space, a membrane is adhered to footings in the crawlspace with underlying piping to which a vacuum is applied. Subslab or submembrane soil gas is collected and vented to a location outside the house.

Per the recommendations in the *Initial Remediation System Evaluation*, DEQ approved the implementation of the following projects during 2018 and early 2019:

- Installation of a replacement landfill gas well at GW-18 (labeled as GW-18A),
- Completion of quarterly groundwater monitoring events in April and September (DEQ only requires semi-annual groundwater monitoring to be conducted),
- Completion of a surface emissions sweep to evaluate migration of methane through the surface cap, and
- Completion of a radius of influence test to evaluate the spacing of soil vapor extraction wells along the south boundary of the landfill.

Details of these four programs are provided in this report in Sections 3 and 4.

2.3 LANDFILL HISTORY AND PREVIOUS INVESTIGATIONS

Property Acquisition, Waste Cell Installation and Operation

The City of Bozeman purchased the property on which the site is located in 1969 (Mann, 1982). The property consists of approximately 200 acres. Initial plans designated 150 acres for use as a landfill facility (TDH, 1972). At present, the former landfill, shop, and convenience site consist of approximately 160 acres, and the “Snow Fill” site is a city recreational area consisting of 40 acres on the northwest corner of the property that was part of the original 200 acres (**Figure 1**).

Class II, III, and IV wastes were accepted at the landfill throughout its operational history. Waste disposal began shortly after purchase of the land and continued until 2008 in two waste cells, and later, a smaller lined Class IV cell (**Figure 1**). The majority of waste has been Class II and includes decomposable wastes, such as municipal and household solid waste, including food, paper, cardboard, cloth, glass metal and plastics. Class II designation prohibits the disposal of regulated hazardous wastes.

Waste disposal was first conducted in the unlined waste cell (also named the Unlined Closed Cell) between 1969 and 1995. This cell is in the southeastern corner of the landfill property. The cell is approximately 32 acres in extent and contains waste up to approximately 110 feet in thickness. Closure of this cell included approximately four feet of soil cover that was re-vegetated with a variety of grasses and forbs. Grading for stormwater runoff and ditches collect rainfall and snowmelt from the surface of the cell and prevent its infiltration.

The City of Bozeman received approval from DEQ to construct a second waste cell immediately west of the Unlined Waste Cell in 1993. This Lined Waste Cell was constructed with a synthetic and impermeable liner with a leachate collection system and was completed by 1995. The second cell is approximately 12 acres in size and up to approximately 100 feet in thickness. After 2008, this became the Lined Closed Cell which is separate from the Unlined Closed Cell. Waste disposal was conducted in this second waste cell between 1995 and 2008. The leachate collection system drained into a lined collection pond. Leachate accumulated in the pond and was pumped to the City municipal wastewater sewer system until June 2007 when the leachate discharge pipeline was connected directly to the municipal wastewater sewer. The leachate pond was then removed and the pond site reclaimed.

Early Groundwater Monitoring Activities

The City of Bozeman began monitoring the quality of surface and groundwater at the site in 1981. Initially, the City collected water samples from three monitoring wells (wells M-1, M-2, and M-3 or MW-3), several domestic wells located west or northwest of the landfill, and several springs and seeps in the area (McIlhattan Seep and Springbox, Boylan Seep). From 1981 through 1994, a total of 22 monitoring wells were installed at the site. Of these, ten have since been abandoned or destroyed. The abandoned or destroyed wells include LF-1, LF-1A, LF-4, LF-5, LF-6, LF-6A, LF-7, LF-7A, M-1 and M-2. Since 1994, additional wells have been installed to expand the monitoring network across the site including nine wells installed in February through April 2014. As of December 2017, there are a total of 31 functional monitoring wells at the site. Additional monitoring sites include

McIlhattan Seep, Bozeman Landfill Shop well, and the Valley View Veterinary Clinic well. The location of current monitoring sites is shown on **Figure 2**.

From 1981 through 1993, the City continued to monitor the quality of surface and groundwater at the site on a periodic basis. Monitoring consisted of analyzing water samples for field parameters (pH, electrical conductivity, and temperature), common ions (calcium, magnesium, sodium, etc.), dissolved metals and various inorganic parameters and organic "indicator" parameters, including Chemical Oxygen Demand (COD), Total Organic Compounds (TOC), Total Organic Halogens (TOX) and others.

In anticipation of new groundwater rules proposed by the U.S. Environmental Protection Agency (EPA) and the State of Montana, the City incorporated analyses of selected VOCs into its groundwater monitoring program during January 1993. Analytical results from sampling events in 1994 and 1995 indicated exceedances of tetrachloroethene and vinyl chloride limits. These exceedances triggered a requirement that led the City to prepare a CMA to address VOC impacts to off-site groundwater.

The 1995 CMA and Implementation of Remedial Alternative

The original CMA was completed in August 1995 (Maxim 1995). Active LFG extraction was the preferred alternative and approved by DEQ. Construction of the original LFGES was conducted during 1997. The system was activated at the end of 1997 and operated until the new LFGES was completed in August 2016, which incorporated wells from the previous LFGES into the new system.

The 1997 LFGES consisted of 20 LFG extraction wells completed in the waste mass (GW-1 through GW-20 on **Figure 3**). Buried piping from each LFG well led to a blower and "candlestick" flare located on the north side of the Unlined Waste Cell, which evacuated LFG from the GW wells. Collected LFG (which includes VOCs) was thermally destroyed using the candlestick flare. Eight landfill perimeter methane monitoring wells were also installed (BLG-1 through BLG-10 on **Figure 4**) and are monitored on a regular basis. Soil gas is collected from these wells and analyzed with a field meter for concentrations of methane, oxygen, carbon dioxide and nitrogen in percent volume. The new LFGES includes six new LFG wells (GW-21 through GW-26 on **Figure 3**).

2.4 GROUNDWATER MONITORING SINCE 1997

Groundwater monitoring has continued since the completion of the LFGES in 1997 and is generally performed semi-annually. Prior to 2014, groundwater monitoring was performed at 16 monitoring wells, two water supply wells, and one spring.

During 2014, the City initiated drilling and completion of 10 additional groundwater monitoring wells at the site (MW-17 through MW-26) shown on **Figure 2**. The placement of wells was designed to identify groundwater flow paths south and southwest of the landfill and on the Bridger Creek floodplain in the Bridger Creek Phase 2 subdivision. These monitoring wells were incorporated into the semi-annual groundwater monitoring program.

2.5 ENVIRONMENTAL SETTING

General descriptions of several aspects of the environment at the Bozeman Sanitary Landfill are included below. More detailed discussions of groundwater conditions are included in Section 4 of this document.

Physiography/Demography

The landfill property lies on the southwest flank of the Bridger Mountains immediately upslope of the East Gallatin River floodplain. The landfill property is bounded by Story Mill Road and a subdivision under development to the east; McIlhattan Road and undeveloped land to the west; agricultural land and rural residential properties to the north; and a combination of residential subdivision, golf course, and City of Bozeman parkland to the south and southwest of the landfill.

Topography at the landfill property and site varies from hilly on the landfill property through Bridger Creek Phase 3 subdivision and adjacent golf course to flat-lying ground along the East Gallatin River. Corresponding elevation above mean sea level ranges between approximately 4,900 feet at the east margin of the Unlined Closed Cell to 4,700 feet in the area of the Bridger Creek Phase 2 subdivision. The ground surface slopes to the west-southwest at an average grade of 5%, with much of it sloping 15% to 50%.

Two surface drainages traverse the landfill property (**Figure 1**). Spring Creek crosses the very northern part of the landfill property, flowing west-southwest. Churn Creek is a perennial drainage (USGS, 1960) that is located just north of the Lined Closed Cell.

Historically, most of the area adjacent to the landfill was used for either farming or grazing. As previously mentioned, residential subdivisions, located south and southwest of the landfill, were constructed in 2000.

Climate

The Bozeman area climate is characterized by long cold winters and short, relatively cool summers. The average warmest month is July and coldest month is December. Average highest temperatures are in July (83°F) and the average lowest temperatures are in December (12°F).

The average annual precipitation at Bozeman is 16.2-inches. Approximately two-thirds of the annual precipitation falls between April and September and one-third occurs in May and June. The average annual snowfall is 50 inches (USClimateData.com).

Geology

Based upon review of Tetra Tech's logging of drill cuttings and review of lithologic logs from borings drilled at the site, the landfill is situated on unconsolidated sediments consisting of silt, clayey silt, sandy silt, gravels in a silt to sandy or clayey silt matrix (**Figure 5**). Remediation wells (Soil Vapor Extraction and Air Injection wells) were drilled and installed in early 2016 along the south margin of the Bozeman Landfill property. This provided an opportunity for a detailed observation of site geology. Geologic formations/lithologies were logged during the drilling of each borehole, and well design was, in part, based upon the geology encountered. Montana Bureau of Mines and Geology (MBMG) published a preliminary geologic map and formation descriptions in 2002 (Vuke et al, 2002), which identified the geologic formations under the site as upper Tertiary and Quaternary age to include the following:

- Miocene/Pliocene matrix-supported conglomerates, poorly sorted, laterally continuous,
- (Hughes, 1980): coarse sandstone and conglomerate with mudstone, marl, and vitric ash,
- Quaternary alluvial fan deposits, clasts are matrix-supported, poorly sorted.

Tetra Tech's observation of the occurrence of these sediments suggests coalescing alluvial fans that form the western flank of the Bridger Mountains and more closely correspond with MBMG's mapped Quaternary alluvial fan deposits. Pre-Cambrian-age crystalline metamorphic rocks underlie the alluvial deposits at an unknown depth.

Borehole logging during installation of wells has confirmed the occurrence of silt, clayey silt, sandy silt and gravels in a silt to sandy or clayey silt matrix. These lithologies can have either continuity or variability in the elevation, at which they are intercepted in each borehole. The variability in the elevation of interception of a particular lithology in each borehole may be interpreted as a lateral facies change. The lithologies encountered, their elevations in each borehole, and continuity suggest an alluvial fan setting with the origin of sediment in the Bridger Mountain range. In addition, the lithology and configuration of the changes of lithology and continuity suggest a mid- to lower- (distal) level alluvial fan setting (Reading, 1986 and Blair and McPherson, 1994).

McIlhattan Road marks the approximate eastern terminus of Quaternary alluvium. The alluvium consists of gravel, sand, silt and clay deposited in stream and river channels, on floodplains, and on low terraces as much as about 20 feet above the East Gallatin River in the vicinity of the landfill (MBMG 2002).

Hydrology

There are two hydrogeologic areas at the site; one in the vicinity of the two landfill cells and the area immediately to the south, and the other along the Bridger Creek and East Gallatin River valleys (**Figure 1**). The area near the landfills is interpreted to be upper Tertiary or Quaternary-age, unconsolidated, alluvial-fan sediments. The sedimentary formations are dominantly sandy to clayey silt or silty clay with some 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 (Section B-B' on **Figure 5**).

The second hydrogeologic area is unconsolidated alluvial sediments of the Bridger Creek and East Gallatin River valleys. Wells MW-10 and MW-21 through MW-23 were drilled in this area. Sediments intercepted in these borings include silt and clay with underlying sand and gravel (West end of Section A-A' on **Figure 5**). Groundwater is also shallower in this area at a depth of 3- to 14-feet below ground surface (bgs). Well MW-26 was drilled near the boundary or transition between the alluvial fan deposits and the stream alluvium.

Groundwater elevations have been relatively consistent since monitoring started in 1997 with flow generally toward the southwest, under the Lined Closed Cell, but changing to a more westerly direction as groundwater approaches the East Gallatin River alluvium. Groundwater gradients are typically around 5% in the upper reaches of the site and less than 2% in the East Gallatin River alluvium.

A distinct upward hydraulic gradient has been measured at several locations in the western portion of the Site (MW-6/MW-6B and MW-8A/MW-8C). MW-6B and MW-8C are completed at deeper intervals than their shallower co-located wells, MW-6 and MW-8A. The groundwater elevation in the deeper wells was 10 feet and four feet higher, respectively compared with their shallower co-located well. It is not known if upward gradients exist elsewhere on the site, due to the lack of paired wells.

The average hydraulic conductivity of the unconsolidated sediments beneath the Bozeman Landfill is approximately 2.0×10^{-2} cm/sec (50 feet per day), (Huntingdon, 1994). Assuming an effective porosity of the mixed sand, gravel, and fine-grained sediments at the landfill of 0.35 (typical values for sand and gravel range from 0.28 to 0.39), (Todd, 1980) and hydraulic gradients ranging from 1.5% to 5.6%, the rate of groundwater movement in alluvial fan sediments underlying the landfill ranges from 2.4 to 9.1 feet per day.

The nearest surface water resources include Churn Creek, several ponds immediately west of McIlhattan Road, and the East Gallatin River (**Figure 1**). Churn Creek is a relatively small perennial stream that flows to the west and is immediately north of the Lined Closed Cell, crossing the property south of Spring Creek. Past water level and survey data indicate Churn Creek is an influent stream along the landfill reach. Past visual estimates of flow in Churn Creek have ranged from less than one cubic foot per second (cfs) to as much as five cfs during spring runoff. Several ponds have been constructed and have developed spring water flow within the East Gallatin River alluvium; two ponds are on the Golf Course property and another is on vacant land west of the landfill.

The East Gallatin River, located approximately 1,000 feet west of the landfill property, is the predominant surface water feature in the area. According to historical U.S. Geological Survey records, the minimum and maximum flow in the East Gallatin River is 17 cfs and 100 cfs, respectively, during 12 years of record (USGS, 2014).

2.6 LAND USE AND OWNERSHIP

The landfill property is owned by the City of Bozeman and is shown on **Figure 1**. As mentioned above, the Site consists of approximately 100 acres of undisturbed ground with two creeks, a shop complex, waste disposal and recycling convenience site, an area for soil borrow, a 12-acre Lined Closed Cell and a 32-acre Unlined Closed Cell. As indicated on **Figure 1**, land to the west and north is currently unoccupied. Land to the west is used for livestock grazing. Land use to the south and southwest consists of two residential subdivisions and a golf course, and land to the east is in the early stages of development as a subdivision. The City also owns a thin strip of

property on the south side of the landfill property between the landfill and Bridger Creek Subdivision Phase 3 that is currently used as a park.

3.0 METHODS

This section describes methods used to conduct monitoring of the LFGES and SVE/AI systems, groundwater and soil gasses at the landfill. The groundwater sampling events following startup of the remediation systems occurred in August 2016 (baseline), December 2016, and April, June, September and December 2017. Continued groundwater sampling events, included in this report, occurred in March, August, October and November 2018 and March and June 2019. Analytical parameters and wells sampling details described in this report are specific to the March and October 2018 and March 2019 monitoring events. Well sampling details in August and November 2018 and June 2019 monitoring events are described in the semi-annual groundwater monitoring reports, which follow the format and analysis required by DEQ (e.g., includes statistical analysis).

3.1 GROUNDWATER MONITORING

Groundwater is conducted on both a semi-annual and quarterly basis for regulatory compliance and assessment of the effectiveness of remediation activities (described below). Groundwater monitoring activities included the measurement of water levels, field parameters, and purging and sampling of existing monitoring wells. The routine semi-annual monitoring events (June and November/December of each year) include wells LF-2, LF-3, MW-4, MW-5, MW-6, MW-6B, MW-7A, MW-7B, MW-8A, MW-8B, MW-8C, MS-9A, MW-10, MW-11, MW-12, MW-13, MW-17, MW-18, MS-19, MW-20, MW-24 and MW-27 (**Figure 2**). Quarterly monitoring in March and October included wells LF-2, LF-3, MW-12, MW-17, MW-18 and MW-20, which were selected to assess effectiveness of the remediation system on groundwater quality, and were targeted specifically at evaluation of the SVE/AI system performance rather than overall landfill compliance. The reasoning to sample only these wells is provided in **Table 1**.

Table 1. Well Selection Criteria for Quarterly Sampling Events

WELL	JUSTIFICATION
Monitoring Locations Downgradient of Unlined Cell or at South Boundary of Landfill	
MW-12	Immediately downgradient of Unlined Cell and most likely to be first well to report changes
MW-17	Well that has been most impacted by VOCs
MW-18	Well at south boundary of landfill and downgradient of Unlined Cell
Monitoring Locations in Bridger Creek Phase 3 Neighborhood	
LF-2	Well in neighborhood and downgradient of Unlined Cell
LF-3	Well in neighborhood and downgradient of Unlined Cell and historically well with highest off-site VOC concentrations
MW-20	Well in neighborhood and downgradient of Unlined Cell and well with the most exceedances of regulatory standards

Typical sampling methodologies entail submittal of one duplicate sample and one trip blank sample during the quarterly sampling and collection of three duplicate samples and two trip blank samples during the semi-annual sampling events (June and December). All samples were submitted to Pace Analytical Laboratories in Minneapolis, Minnesota, for laboratory analysis following each monitoring event. Samples were submitted for analysis of volatile organic compounds (VOCs) in accordance with United States Environmental Protection Agency (USEPA) Method 8260, low level. The analysis provides results on 58 VOC constituents. Although all 58 constituents were reviewed, only three constituents are presented in the following discussion, charts, and figures. These constituents are tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC); these have

historically exceeded Montana Groundwater Protection Standards (GPS) and will likely be the parameters used for future site closure decisions.

3.1.1 Water Level and Field Parameter Measurements

Water levels were measured from a designated point on the north quadrant of the polyvinyl chloride (PVC) collar of each monitoring well. An electric well probe was used for water level measurements and routinely decontaminated before use at each monitoring 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 multi-meter 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 and sampling with a bailer. The measurements were recorded on groundwater sampling logs contained in **Appendix B**.

3.1.2 Groundwater Sampling

Water samples were collected from each monitoring well or monitoring site in accordance with Tetra Tech's Groundwater Monitoring Sampling and Analysis Plan (2015) for the site. In general, the following sampling procedures were used:

- Monitoring wells were purged and sampled using dedicated 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.
- 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 (**Appendix B**).
- Samples were packed in an ice-filled cooler and shipped with a chain-of-custody form to Pace Analytical Services, Inc. in Minneapolis, Minnesota. Chain-of-Custody forms for the sampling events are included with the laboratory report in **Appendix C**.
- In most wells monitored, one field parameter measurement was conducted per each casing volume removed in a well.

Samples collected from the sites were analyzed for volatile organic compounds (VOCs) in accordance with method 8260B MSV Low Level. In addition, the method 8260 list of constituents, in this and previous monitoring events had been increased from 48 to 58 constituents to include all constituents analyzed in previous residential indoor air monitoring. Analytical methods are also described in the laboratory analytical reports (**Appendix C**).

Pace Analytical Services, Inc. (Pace), in Billings, Montana, was contracted to furnish the sample containers, trip blanks, and conduct the analysis of the water samples. For the monitoring events, trip blanks were 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 MSV Low Level) listed in **Appendix C** to 40 CFR Part 258 contained in ARM 17.50.1306(7), including dichlorodifluoromethane. The 2018 and 2019 monitoring events field and laboratory data have been entered into Tetra Tech's project groundwater database.

Data quality has been evaluated by conducting a data validation process and producing reports, which compare data quality to the objectives in the project Quality Assurance Plan (Tetra Tech 2015a). Where appropriate, these reports modify data in our database and identify areas where field methods were not followed. No data was

removed from the database as a result of the data validation process, however, several qualifications of individual data points were made. The data validation reports are presented in **Appendix D**.

3.2 LANDFILL GAS EXTRACTION AND SOIL VAPOR EXTRACTION SYSTEMS MONITORING

Landfill gas extraction was a selected remedial alternative in both Corrective Measures Assessments conducted for the landfill (Maxim, 1995 and Tetra Tech, 2014). The original Landfill Gas Extraction System (LFGES) began operation in 1995 and was upgraded in 2016. The upgraded system started operation in August 2016. The upgraded system extracts LFG from 25 wells labelled GW-1 through GW-26 (with the exception of LFG well GW-20 that was closed in 2008). The locations of the LFG extraction wells are shown on **Figure 3**.

A Soil Vapor Extraction (SVE) system was also constructed in August 2016 and consists of 16 wells along the south property boundary of the landfill. This system is for the purpose of providing a barrier to the migration of LFG into an adjacent residential neighborhood and the removal of VOCs from groundwater. The location of the SVE wells are shown on **Figure 4**.

An assessment of SVE radius of influence (ROI) was conducted in October 2018 and again in January and June, 2019. This was for the purpose of determining if the 'fence' of SVE wells is capturing all landfill gas migrating to the south. Methods used for this assessment are described in Section 3.2.3.

3.2.1 Landfill Gas Extraction Well GW-18A

In October 2018, LFGES well GW-18A was drilled and completed. Well GW-18A replaced well GW-18 because the casing of GW-18 was broken just above the level of leachate. This resulted in the inability for the well to accept a leachate pump. Well GW-18A was drilled and completed using a Foremost® DR24 Dual Air Rotary drilling rig. The borehole is 10-inches in diameter and the well casing is a 6-inch diameter, Schedule 80 Poly Vinyl Chloride (PVC). The well log is contained in **Appendix E**.

In December 2018, well GW-18 was separated from the LFG collector piping and abandoned by filling the casing with bentonite and then cutting off the casing approximately 2 feet bgs. At that time, well GW-18A was fitted with a pitless adapter connected to the leachate drain piping at an approximate depth of 5 feet. The well was also fitted with several QED® products including an AP-4 pump, compressed air filter regulator (for the pump), cycle counter, Easy Level™ Liquid Level Indicator and well head (with valve, orifice plate fitting, and monitoring ports). The well was then connected to the LFG collector piping. The pump was connected to the compressed air piping, and leachate drain piping and the well was brought on line.

3.2.2 System Monitoring

Monitoring at the flare, and in individual LFG extraction wells (GW- wells), has been conducted to provide data to support decisions relative to optimizing LFGES collection and reducing methane concentrations, while maintaining adequate methane concentrations for thermal destruction and operation of the flare. Gas flow is measured with a more accurate orifice plate and pressure differential system. Operational vacuums in individual LFG wells are measured with using the Envision® gas analyzer. The measurements from these instruments determine gas flow and quality of LFG at each well. Measurements are recorded in the project database.

Monitoring of the SVE wells is conducted to provide data to support the analysis of system operations. The objective is to ensure adequate extraction of soil gas from across the SVE well treatment zone, including VOCs mobilized by the air injection system. This monitoring was conducted using the Envision® gas analyzer, pressure manometers, and a photoionization detector (PID). Measurements are recorded in the project database.

Monitoring at the flare station tracks operation of the LFGES and SVE systems. The system includes an auto dialer and modem that notifies Tetra Tech staff when the system is in an alarm or shutdown condition.

Measurement of operation parameters provides information on the condition of blowers and compressor, LFGES and SVE gas flows, and overall physical qualities of the LFG and SVE gas streams.

3.2.3 Assessment of Soil Vapor Extraction Radius of Influence

The spacing of the SVE wells was initially established during design of the SVE/AI system using data from SVE pilot tests conducted at wells SVE-1 and SVE-2. Evaluation of the results from these tests indicated an ROI of 120 ft was possible, hence the SVE wells are spaced between 85 and 105 ft apart. This analysis was presented in the Story Mill Landfill Basis of Design (Tetra Tech, 2015a).

The radius of influence of the SVE wells was evaluated by conducting short-term shutdowns of selected SVE and all AI wells, which allowed the shut SVE wells to temporarily become vacuum monitoring points. Vacuum created by the open SVE wells was allowed to equilibrate after SVE wells were closed. Following equilibration, a series of vacuum measurements were collected in the soil gas probes (BSV), perimeter methane monitoring wells (BLG), and the shut SVE wells. Four tests (identified as Test 1, 2, 3 and 4) and a number of subtests (e.g., Tests 1A, 4B, etc.) were conducted, with different SVE wells shut down for each test iteration. These tests occurred in October 2018, January 2019, and June 2019, respectively.

In each test, a different combination of open and closed SVE wells was used, which isolated different segments of the south boundary line of SVE wells. Three cross-sections are presented showing which SVE wells were shutdown and used as monitoring points in each of the tests (**Figure 6**). Each test shut down between two and nine SVE wells so that no vacuum was applied to these wells during the course of the test. After the initial tests were completed, some variations of the tests were conducted to better evaluate specific areas (i.e. Tests 1A, 2A, 3A, etc.).

The entire AI system was turned off during all phases of the testing. BSV soil gas probes and BLG methane monitoring wells were also used as measuring points, although it should be noted that the large screened intervals (20 ft or more) in some of the BLG wells may have prevented them from being useful monitoring points and few of these monitoring points extend to the same depths as the bottom of the SVE wells. In some cases the screened interval of a vacuum monitoring point did not overlap with the screened interval of the closest SVE well that was still in operation, potentially precluding the collection of ROI data in that area.

After each set of SVE wells were shut down and equilibrium was attained, vacuum measurements were collected. Field forms with measurements from the four tests are presented in **Appendix F**. Although it was found that equilibrium was attained within about one or two hours, each test was variable in length and in some cases, was extended overnight. Weather changes and, in particular, barometric pressure changes had been found to affect the performance of LFGES and SVE operation at the landfill. Therefore, weather and barometric pressure was also monitored during the testing (**Appendix F**).

Prior to the testing, monitoring of fixed gases, vacuum, flow, and other settings was conducted on all of the SVE wells. Vacuum and flow measurements in each well were considered baseline conditions and were maintained in the open SVE wells during each test.

In Test 1 (October 2018), wells SVE-2, -4, -7, -12, and -16 were shut down and used as vacuum monitoring points (**Figure 6**, top of page). Measurements of vacuum were then collected in the BSV probes, BLG wells, and shut SVE wells. Following the confirmation of equilibrium and the last round of vacuum measurements, Test 1A was initiated with the additional closure of wells SVE-3, -6, and -8 (**Figure 6**, top of page). This was followed by confirmation that equilibrium had been established and another round of vacuum measurements were recorded. In Test 2 (October 2018), wells SVE-5, -8, -10, -13 and -14 were shut down and used as vacuum monitoring points (**Figure 6**, middle of page). As in Test 1, measurements of vacuum were then collected in the BSV probes, BLG wells, and shut SVE wells. Following the confirmation that equilibrium had been established and the last round of measurements, Test 2A was initiated with the additional closure of wells SVE-1, -4, -6 and -9

(Figure 6, bottom of page). This was followed by confirmation of equilibrium and another round of vacuum measurements.

After evaluating the results of Tests 1 and 2, it was evident that 11 of the 16 SVE wells had faulty adjustment/shutoff valves (SVE-1 through -4, SVE-7, -8, and -10, and SVE-12 through -15) and had failed to completely shut off the vacuum from the SVE system. This allowed these SVE wells to still pull a vacuum on wells that were supposed to be closed and used as vacuum monitoring points. This made data collected from those wells invalid and raised questions about the vacuum measured in nearby monitoring points. Hence, Test 3 was designed to entail placement of solid orifice plates in the wells with faulty valves to ensure an air-tight closure between the SVE well and the active SVE system. In January 2019, Test 3 was conducted that followed a similar grouping of SVE well closures. Test 3 entailed closing five of the 16 SVE wells at some point during testing. Figure 6 presents the SVE wells that were closed during Test 3.

After evaluation of the results from Test 3, it was evident that additional testing was necessary to refine our ROI analysis. The lack of conclusive evidence of an ROI at several wells identified the need for further evaluation. Test 4, which was conducted in June 2019, focused on isolating one or two SVE wells at one time and evaluating whether increasing air flow in individual SVE wells would increase the ROI. Test 4 involved increasing the air flow out of wells SVE-3, -4, -8, -10 and -15, above typical operating flows, in an attempt to see if the low vacuum measurements in nearby monitoring points would increase and allow calculation of a more definitive ROI. Table 2 presents a summary of the various configurations of closed SVE wells and increased air flow that were conducted during Test 4. Methane concentrations in the outflow from these wells was also measured to evaluate whether the increased flow would increase the flow of methane out of the nearby refuse, which is not desirable.

Table 2. SVE Well Configurations for Radius of Influence Test 4

TEST	SVE WELLS TESTED (Left open to SVE)	SVE WELLS CLOSED AND USED FOR VACUUM MEASUREMENTS	PURPOSE OF TEST
4-1	SVE-11, SVE-8	SVE-5, SVE-12, SVE-7, SVE-15	Testing ROI
4-1A	SVE-12, SVE-7	SVE-11, SVE-5, SVE-6, SVE-13, SVE-1, SVE-14, SVE-15, SVE-8	Testing ROI
4-2	SVE-6, SVE-1, SVE-15	SVE-5, SVE-12, SVE-13, SVE-2, SVE-14, SVE-7, SVE-8, SVE-16	Testing ROI
4-2A	SVE-5	SVE-4, SVE-11, SVE-12, SVE-6	Testing ROI
4-2B	SVE-3, SVE-11, SVE-13, SVE-14	SVE-10, SVE-4, SVE-5, SVE-12, SVE-6, SVE-2, SVE-1, SVE-7, SVE-15	Testing ROI
4-3	SVE-3	SVE-10, SVE-4	Testing ROI with increased air flow
4-3A	SVE-10	SVE-3, SVE-4, SVE-11	Testing ROI with increased air flow
4-3B	SVE-4	SVE-3, SVE-10, SVE-11, SVE-5	Testing ROI with increased air flow

3.3 AIR INJECTION SYSTEM MONITORING

Air injection (AI) into groundwater and the vadose zone along the south boundary of the landfill was also a selected remedial alternative in the 2014 corrective measures assessment. Nine AI wells were completed in seven boreholes (Figure 4). The AI wells became operational in 2016, along with the SVE system. The AI system injects atmospheric air into seven wells, screened below the level of groundwater, and two wells (AI-5 and

AI-6 shallow) that are screened above groundwater. The SVE system is designed to collect a portion of the air delivered by the AI wells.

Monitoring of the nine air injection (AI) wells is conducted to provide data to support the analysis of system operations. The objective of the AI system is to provide injection of atmospheric air into the subsurface, both above and below the elevation of groundwater, to mobilize VOCs into vapor phase for collection by the SVE system. During the period of analysis in this report, all nine AI wells are operational.

Two types of AI well monitoring are conducted. The most frequent is the monitoring of gas flow at the valve boxes, in which pressure gauges are used to measure the pressure difference across a one-inch diameter orifice plate. This and other gas information and barometric pressure allows calculation of the volume of air flow into each well. The second type of AI well monitoring is at each well-head, where the condition of each AI wells' air-tight cap of 2-inch ball valve is inspected and downhole measurements of total depth and depth to groundwater are conducted. The downhole measurements indicate how much screen is available, or sediment-free, to facilitate injection of air into the geologic formation. Site visits were also conducted at the flare to ensure that the air compressor operates within specifications and that recommended maintenance of the compressor is conducted in a timely manner.

The Initial Remediation System Evaluation report (Tetra Tech, 2018a) included maintenance activities and reporting of monitoring results through January 2018. This Remediation Evaluation report includes maintenance activities and reporting of monitoring results from January 2018 through June 2019.

3.4 LEACHATE / CONDENSATE COLLECTION

Operation of 17 leachate collection pumps in the LFGES extraction wells produces leachate that is discharged into leachate drainage pipelines, which then gravity-drains to a 4,000-gallon underground storage tank (UST). These pumps were installed during construction of the upgraded system and became operational in 2016. The UST is located near the southwest corner of the Unlined Cell (**Figure 3**).

Operation of the LFGES results in the accumulation of condensate along the walls of the LFG collector piping and in the LFGES wells. The condensate gravity-drains down the well casings, or along the LFG collector piping, to the 4,000-gallon UST.

The volume of condensate and leachate accumulating in the UST is monitored using a water level meter lowered into the UST. Fluid level data allows for the calculation of accumulation rates and estimation of when the fluid UST needs to be pumped. A pumping contractor is used to pump out the UST and transport the fluid to the municipal sanitary sewer. Samples are collected from the UST on a five-week basis, analyzed, and submitted to the Bozeman Water Reclamation Facility (WRF) for the purpose of maintaining compliance and approval to discharge the fluid to the City sanitary sewer.

As of January 2019, the fluid in the UST is sampled, analyzed, and reported in accordance with an Industrial User Permit. This requires monitoring and sampling of the UST on a quarterly and annual basis for specific VOCs, metals, and inorganic constituents. Reporting is on a semi-annual basis. The first semi-annual report was submitted in May 2019. The second semi-annual report will be submitted by December 1, 2019.

4.0 DATA PRESENTATION AND ANALYSIS

Remediation system monitoring data and groundwater data collected at the Bozeman Landfill are summarized and discussed in this section. A combination of historic data since the 1990s and recent data since startup of the upgraded LFGES and SVE/AI System are presented. Data through June 2019 is presented in this report. The data presented supports the analysis of effects the 1996 systems had on VOC concentrations in groundwater, as

well as effects the 2016 systems are having on groundwater. The LFGES and SVE/AI system performance data is also presented and analyzed.

4.1 GROUNDWATER ELEVATIONS

Groundwater elevation data has been collected on a quarterly and semi-annual basis from wells across the landfill site since the early 1990s. Groundwater flow is to the southwest and west across the site (**Figure 7**). Depth to groundwater ranges from greater than 110 feet bgs at the eastern margin of the site, to less than one-foot bgs at the western margin of the site on the East Gallatin River floodplain.

Long-term rises and declines in groundwater elevations are evident with a typical high to low cycle of every six to eight years (sometimes shorter); and elevation changes are approximately three feet between highs and lows (**Figure 8**); although, fluctuations of up to 10 feet have occurred in the upgradient well MW-5. Increasing elevations occurred from 1992 until 1996, and relatively high groundwater elevations continued until 1998. This was followed by a gradual decline in groundwater elevations to a low in 2006, which was followed by a general rise until 2011 and 2012. This was followed by another period of decline through 2016. The 2017 through 2019 data shows groundwater elevations rising again. These groundwater elevation changes appear to be related to precipitation cycles for the Bozeman area (based upon weather station near Montana State University campus), as shown on **Figures 9** and **10**, with an apparent two-year lag between changes in precipitation and the resultant change in groundwater levels beneath the landfill site. This is probably the result of melting snowpack in the Bridger Mountains and local precipitation taking one to two years to recharge the shallow water bearing units on the west side of the mountains. Static water level and VOC concentrations from 1994 to June 2019 are compared on **Figure 10** for wells LF-3, MW-12, and MW-13. Evaluation of this data indicates a relationship between changes in groundwater elevations and changes in VOC concentrations in groundwater, which is discussed further in Section 4.2.

4.2 VOCs IN GROUNDWATER

One of the objectives of the expanded remediation system is to decrease the concentration of VOCs in groundwater. The effect of the remediation systems on the change in concentrations of three selected VOCs (tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC)) over time is presented in this section. Concentrations of these, and other VOCs from all site sampling locations are presented in **Table 3**. Analytical results for the quarterly monitoring events of March and October 2018 are presented in **Appendix C**. Analytical results for the semi-annual monitoring events of August and November 2018, and June 2019 were presented in three separate groundwater monitoring reports (Tetra Tech, 2019a, 2019b, and 2019c), respectively.

The Montana HHS for tetrachloroethene is 5 µg/L and there is a health advisory for vinyl chloride of 0.2 µg/L. The USEPA National Primary Drinking Water Regulations (NPDWR) Maximum Contaminant Level (MCL) for tetrachloroethene is 5 µg/L and for vinyl chloride is 2.0 µg/L.

PCE, TCE, and VC have historically exceeded regulatory standards in several monitoring wells across the site (**Figure 11** and highlighted data in **Table 3**). Wells with VOCs that exceeded the GPS or Montana Human Health Standard (HHS) during 2018 and the first six months of 2019 include the following:

- Wells MW-17 and MW-20 had concentrations of tetrachloroethene above 5.0 µg/L, and
- Wells MW-6, MW-12, MW-13 and MW-18 had vinyl chloride concentrations above 0.2 µg/L,
- Well MW-17 had concentrations of methylene chloride above 5 µg/L.

No trichloroethene concentrations in groundwater wells at the landfill exceeded the regulatory standard of 5 µg/L during the period of this report.

All of the wells with exceedances are located downgradient of the Unlined Closed Cell. Well LF-3 is also included in this discussion due to its off-site and downgradient location and availability of water quality data going back into

the 1990s. Concentrations of VOCs in groundwater have declined significantly across the site since the first LFGES was installed in 1996 (**Figure 10**).

Evaluation of groundwater quality results, since startup of the new remediation system in August 2016, indicates PCE, TCE, and VC concentrations have been variable, with some wells exhibiting decreases or fluctuating levels and several wells reporting increases. **Figure 11** presents data from five wells along the landfill's south property boundary or offsite that are likely to have been affected by both the LFGES and the SVE/AI systems. MW-20 reported a relatively consistent decline in the concentration of PCE from 2014 to 2016; however, concentrations have fluctuated between approximately 6 and 8 µg/L since that time. Concentrations of TCE in MW-20 have been consistently below 1 µg/L since it was installed in 2014. MW-17 showed concentrations of TCE and PCE decreasing from 2014 until mid-2015 and 2016, respectively, when they dropped below regulatory levels for both compounds. This was followed by relatively stable concentrations until late 2018 when concentrations of PCE increased to above regulatory levels and June 2019 when TCE concentrations approached regulatory levels.

Vinyl Chloride concentrations in groundwater have been variable with MW-18 showing fluctuations between approximately 2 µg/L and 6 µg/L since 2014, then a large drop in June 2019 from 4.6 to 0.47 µg/L, while MW-17 was below detection limits during 2016 and 2017, then increased to above the Montana regulatory standard during late 2018 and 2019. LF-2 has exhibited fluctuating concentrations of PCE, all of which were below the regulatory standard. Well LF-3 has shown slightly lower concentrations of PCE and TCE since 2016, also below regulatory standards.

Vinyl Chloride has been the most persistent and widespread VOC in groundwater at the site. It should be noted that VC is a daughter product of the degradation of PCE, and as such, increases in VC concentrations can occur in groundwater when PCE is degraded by reductive dechlorination. Hence, elevated VC concentrations may be short-lived as the concentrations of PCE decline. Wells with unchanged VOC concentrations typically had low or non-detect concentrations of VC since the wells were first sampled (e.g., <5 µg/l).

The concentration in groundwater of PCE, TCE, and VC has fluctuated since startup of the remediation system in 2016 with minor overall declines in some wells. This makes it difficult to conclusively say, at this point in time, that the SVE/AI system is having an effect on PCE, TCE, and VC concentrations in groundwater across the entire south margin area of the landfill, however, VOC concentrations are declining in some areas.

Evaluation of the trend charts presented on **Figure 12** indicates that concentrations of PCE, TCE, and VC in wells MW-17, MW-18, and MW-20 had been on the decline since before the expanded LFGES and SVE remediation system began operation in August 2016. However, MW-17 has shown increases in PCE and TCE since late 2018. Some of the short term or small-scale VOC rebounds may be the result of rising groundwater elevations, since VOC concentrations appear to decline when groundwater elevations decline and increase when groundwater elevations rise (**Figures 10** and **12**). It is important to note that, while groundwater elevations have fluctuated two to three feet since 1993, VOC concentrations in groundwater have declined significantly, overall. Hence, when groundwater elevations have risen back to historic highs, the corresponding increase in VOC concentrations is small relative to the overall decline of VOCs over the same period of time and concentrations do not approach the earlier concentrations. For example, PCE in MW-17 declined from 24.8 µg/L in August 2014 to 3.2 µg/L in November 2016, however, when water levels rose in 2019 to elevations similar to those in 2014, PCE concentrations only increased to 10 µg/L. A similar pattern is evident for PCE in well MW-20 and in other wells to varying degrees. Therefore, the slight increase in VOCs observed in some wells after April 2017 may primarily be a rebound created by rising groundwater levels.

The connection between rising water levels and increasing VOC concentrations may be related to the two following occurrences:

- Higher groundwater levels reduce, or eliminate, the distance between the bottom of the landfill and the water table, thereby reducing the volume of unsaturated soil that can be "treated" by the removal of LFG

by the LFGES. This likely reduces the removal of LFG from the vadose zone immediately below the refuse and immediately above groundwater.

- In the vicinity of the Unlined Closed Cell, a vertical interval of VOC-impacted soil likely exists immediately above groundwater (smear zone). At higher groundwater elevations, VOCs can partition from soil to groundwater at a higher rate, thereby resulting in higher concentrations of VOCs in groundwater.

Other factors that may contribute to the decline in VOCs are groundwater remediation accomplished by the operation of the previous LFGES since 1996, a decline in landfill gas generation as the landfill ages, and natural attenuation of VOCs within the waste prism.

Wells LF-2, LF-3, MW-19, MW-20, MW-24 and MW-27 are located offsite and down gradient of the LFGES. Only two of those wells, LF-3 and MW-20, have reported exceedances of regulatory standards since 2014. **Figure 13** presents VOC concentrations in wells LF-3 and MW-20, which are outside of the landfill property but downgradient of the LFGES and SVE/AI remediation systems. Evaluation of these data indicates that only MW-20 exceeded regulatory standards for PCE, although the concentration dropped from 11.5 µg/L during 2016 to 7.1 µg/L in June 2019.

4.3 LANDFILL GAS EXTRACTION SYSTEM

The expanded LFGES system has been operational since August 2016. The upgrades include a new enclosed flare with improved instrumentation along with an additional ten new LFG extraction wells. Six of these LFG wells were completed in new locations on the Unlined Closed Cell. These new LFG wells were connected to the existing collector piping. The other four new LFG wells replaced four existing LFG wells that had impairments resulting in decreased LFG collection. Most recently, well GW-18 was replaced with well GW-18A during October and December 2018.

The collection of landfill gas (LFG) from the closed cell increased with the operation of the new and expanded LFGES. Operational parameters of continued operation of the upgraded LFGES are summarized in **Table 4**. This summary presents information for the upgraded LFGES from startup in August 2016 to June 2019. **Table 5** summarizes the new LFGES field monitoring data since the August 2016 startup. **Figure 14** presents the LFGES field parameters since startup of the new system.

Monitoring of LFG during 2018 and through June 2019 indicates that concentrations of methane and carbon dioxide were consistent with past data, with methane concentrations being slightly higher and oxygen concentrations being low to non-detect. Nitrogen concentrations were higher in the months of September, October, and November of 2018 and the first six months of 2019, than other times of the year. This is interpreted to be the result of a decrease in soil moisture during the summer (a seasonal dry time of the year) that allows for a small increase of atmospheric air intrusion into the waste. However, this air intrusion is minimal, since less than one percent oxygen is measured in the individual LFGES wells or at the flare.

The LFGES extracts LFG from 25 wells with an operational efficiency of 94%. In the 6% remainder of time, the flare was down for scheduled maintenance, such as maintenance of the compressor and lubrication of the blowers. In addition, there were repairs to the air injection system and leachate drain pipeline that resulted in the flare being down. The LFGES removed an average of 164 cubic feet per minute (CFM) with an average methane content of 34% (**Table 4**). The calculated methane removal from the Unlined Closed Cell was 3,195 pounds per day during operation between August 2018 and June 2019, which is similar to the August 2017 to August 2018 period and a 9% increase from the first year of operation (August 2016 to August 2017). In 2018 to June of 2019, the LFGES well field was under an average of -22 inWC vacuum with LFG removed at an average rate of 164 CFM. The system vacuum and rate of LFG extraction was increased over 2016 and 2017 averages of -12 inWC vacuum and 154 CFM, respectively (**Table 4**).

Table 5 summarizes the LFGES monitoring data measured at the flare since startup of the new remediation systems in August 2016, with averages calculated for each project year (mid-August to mid-August). From August

2018 to June of 2019, the methane, carbon dioxide, and oxygen content in the extracted LFG averaged 34.1, 31.6, and 0.1%, respectively. The methane, carbon dioxide and oxygen gas concentrations are similar to the 2016 and 2017 averages. **Figure 14** presents the LFG field parameters since startup of the new system.

The Unlined Cell is very close to the southern property boundary and the SVE/AI system (**Figure 4**); hence, it is difficult to segregate the influence of the LFGES system from the influence of the SVE/AI system on groundwater flowing to the southwest away from the landfill. The effect of the LFGES on VOC concentrations in groundwater is best represented by data from monitoring wells located west of the Unlined Cell, such as MW-7A, MW-11, MW-12 and MW-13 (**Figure 15**). Groundwater flows both southwest and west from the vicinity of the Unlined Cell (**Figure 7**), hence, these wells are also downgradient of the Unlined Cell. The original LFGES reduced VOC concentrations in this area to below GPS, except for VC, which is still above GPS in wells MW-12 and MW-13. Since August 2016, VC concentrations decreased in these wells for several years although they have started to increase again (**Figure 15**).

4.4 SOIL VAPOR EXTRACTION SYSTEM

The SVE system has been operational since August 2016. The system consists of 16 wells along the south property boundary of the landfill (**Figure 4**). This system is for the purpose of providing a barrier to the migration of LFG into an adjacent residential neighborhood.

An assessment of SVE radius of influence (ROI) was conducted during four tests conducted between October 2018 and June 2019. These tests were designed to estimate the lateral extent of influence from the 16 SVE wells along the south boundary of the landfill, which would then be used to evaluate whether sufficient capture of soil gas is occurring. Results and analysis of this assessment are presented below.

4.3.1 Soil Vapor Extraction System Operational Data

The SVE system extracts soil gas along the south boundary of the landfill from 16 wells and has had an operational efficiency of 94% (same as the LFGES). The soil vapor extraction (SVE) system has been operational since August 2016. **Table 6** summarizes the SVE system monitoring data measured at the flare for 2018 and through June of 2019. The SVE well field was under an average of -41 inWC vacuum with soil gas removed at an average rate of 176 CFM. The rate of extracted gas has increased slightly, without system adjustment, from an average of 173 CFM at the end of 2017, to over 200 CFM in June 2019 (**Table 6**). The reason for this over 15% increase in average LFG removal is not clear. During this time period, the methane, carbon dioxide, and oxygen content in the extracted soil gas averaged 0.6%, 1.0%, and 19.0%, respectively. The methane and carbon dioxide gas concentrations are slightly lower than the 2016 and 2017 averages. **Figure 16** presents the SVE field parameters since startup of the new system. The trend of methane and carbon dioxide indicates that initial operation of the SVE system removed higher concentrations of methane and carbon dioxide, indicative of LFG and its associated VOCs, before these concentrations declined to the above-stated averages. Concentrations of oxygen and nitrogen have been relatively unchanged. This early peak declining to a baseline is typical for SVE systems.

4.3.2 Assessment of Soil Vapor Extraction System Radius of Influence

The SVE radius of influence testing that occurred in late 2018 and early 2019 is described in Section 3.2.3. A summary of the vacuum data collected during the four test events are presented in **Table 7**. The data presented are generally the highest vacuum measurements recorded from any given vacuum monitoring point during the four tests. Shut SVE wells, methane perimeter wells, and soil gas probes were used as vacuum monitoring points along the south boundary of the landfill. In portions of the SVE array, there are a limited number of vacuum monitoring probes, including some of which that are 100 ft or more from the closest SVE well; hence, it is not possible to definitively ascertain the radius of influence across the entire south boundary of the landfill. It should be noted that on the eastern half of the SVE array of wells they were installed at alternating depths with SVE 12, -

13, -14, -15 and -16 completed to depths of approximately 25 ft. while SVE-6, -2, -1, -7, -8 and -9 were completed to depths of approximately 40 to 70 ft BGS. The shallower wells were completed 20 to 60 feet above groundwater, while the deeper wells were completed within approximately 5 to 10 ft of groundwater. This design was selected to provide capture of LFG migrating at all depths of the subsurface to reduce offsite migration of LFG into the adjacent neighborhood as well as treating groundwater, the latter of which is the focus of most SVE systems.

The Radius of Influence (ROI) for the various wells was analyzed by taking the vacuum readings from the various tests and normalizing them to the vacuum pressure applied to the system at the extraction well. The final normalized vacuum for each vacuum (negative pressure) applied versus the distance between the extraction and observation well was plotted when sufficient data was available. A rule of thumb was used to establish when significant influence was created by an SVE well. That rule of thumb was set at 10% of the applied vacuum, so the normalized values were compared to this rule of thumb value during the evaluation. If there was sufficient data, a linear equation was used to determine the ROI at 10% vacuum. If there was insufficient data for a linear trend analysis, then the ROI was estimated by comparing the measured values to the 10% rule of thumb. In cases where the normalized vacuum measured is less than the 10% value, the ROI was reported as ROI < distance of measurement. If the normalized vacuum was greater than the 10% value, the ROI was reported as ROI ≥ distance of measurement. The results of this “normalized vacuum” method of analysis are highlighted in tan on **Table 7** and **Figures 17** and **18**.

For some wells, there were insufficient data points to do this graphical representation, in which case the distance to any data point that exceeded 10% of the applied vacuum was inferred to be the minimum ROI and those locations where no measurements exceeded 10% of the applied vacuum, a “less than distance” ROI is inferred. This results in a variable calculation of ROI, with some well-defined distances, some inferred distances, and some “less than” or “greater than” distances. The results of this analysis are presented on **Table 7**. While the “normalized vacuum” method provides a more definitive estimation of the ROI, it is also possible to infer the radius of influence by establishing measurement locations where a change in pressure was observed during the testing. For this analysis, we have assumed that any location that consistently reported a 0.04 inWC vacuum, or greater, during one of the tests, was being influenced by a nearby SVE well. These observations are highlighted in yellow on **Table 7** and they are summarized in the third column of **Table 8**. The estimated and inferred ROI are also presented on a cross-section of the south boundary of the landfill on **Figure 19**. In some cases where a ROI could not be estimated by either method, there was not a vacuum monitoring point close enough to an SVE well to observe influence at distances less than 100 feet. The affect of barometric pressure on the vacuum measurements was accounted for by evaluating barometric pressure changes (**Appendix F**).

While the lithology of the subsurface plays a significant role in determining the ROI for a SVE system, there are no definitive relationships evident when the lithologic section is presented with the test results (**Figure 19**). We believe this is due to the fact that the SVE system is primarily located opposite a silt formation which has occasional interbeds of gravel or sand and over half of the wells intercept a gravel formation 30 to 60 ft below the ground surface. Many of the vacuum monitoring points that were used do not intercept this gravel formation, hence, it is possible that the applied vacuum primarily affects the deeper gravel formation.

The gravel and sand lenses in the silt formation are typically not laterally continuous for more than 100 ft, as evidenced by well logs from adjacent wells that don't show the same lithology. It is also possible that many gravel and sand lenses were not recorded on a few drilling logs because air rotary drilling methods were used for some wells and grab samples were used to collect soil samples above groundwater in many wells. The area of wells SVE-8, SVE-16, and SVE-9 have the greatest vertical extent (approximately 70 feet or more) of sediments above groundwater, as well as well spacings of about 100 feet. Creation of vacuum across the entire vertical interval in the vicinity of these wells may be more difficult with the current levels of extractive air flow in the wells.

Table 8. Summary of Estimated and Inferred Radius of Influence

SVE WELL	ESTIMATED ROI (ft) (Based on "Normalized Vacuum" method)	INFERRED ROI (ft) (Based on observed vacuum of 0.04 inWC or more)
1	25 to <60	28
2	6	43
3	<184	ND
4	<87 and <55	55
5	<85	86
6	>85 ft (east) and <85 (west)	87
7	ND	ND
8	<18 and <105	ND
9	<105	ND
10	<111	111
11	5.5 and <144	35
12	<85	85
13	<85	ND
14	<95	105
15	<105	105
16	<36	105

Note: ND = ROI Not Determined

At depths greater than approximately 30 feet, nested soil gas probes at BSV-13 have indicated some fluctuations between negative and positive pressures. It is not clear what is causing these positive pressures in these probes; Some of these locations showed a drop in pressure during the SVE tests, indicating the positive pressures can be overcome with application of adequate vacuum.

Evaluation of the results of the ROI tests presented in **Table 8** indicates that the ROI created by the SVE wells appears to vary considerably across the south boundary of the property from a low of 6 feet to over 100 feet. It also appears that the lack of vacuum monitoring points makes it difficult to directly assess the ROI in some areas. The effect of lithology on the ROI for any given well is probably significant and difficult to ascertain given the level of lithologic detail that is available (i.e., large spacing of well logs and well installation programs tend to focus on lithologic conditions at or near groundwater, rather than in the vadose zone). The SVE system Basis of Design report (Tetra Tech, 2015a) used the assumption that the ROI would be approximately 60 ft from each well, which would support SVE well spacings of 120 ft in total, as determined by testing of SVE-1 and SVE-2 prior to system design. ROIs ranging from 25 feet to 85 feet appear to be more typical along the south boundary of the landfill.

4.4 AIR INJECTION SYSTEM PERFORMANCE

During the period of analysis of this report, the nine AI wells were operational. The operational efficiency of the AI system is similar to the SVE system at approximately 94%. Air is delivered to the subsurface under pressures ranging between 105 pounds and 125 pounds per square inch (psi). Monitoring of the AI wells at the well-head

was conducted in May and November 2018 and April 2019. These monitoring events confirmed that the previous issues with sediment blocking the screened interval in the well casing have been resolved.

In February 2018, the shutoff gate valves were replaced after it was discovered that at least four of the valves leaked. Shutoff valves at each of the AI wells were adjusted to be minimally open. This adjustment also allowed the air compressor to cycle between loading and unloading compressed air within specifications and without reaching an over-heating condition.

There were five compressed air flow monitoring events between January 16, 2018 and June 6, 2019. These indicated that compressed air flowed through the AI wells at a rate between 285 and 350 CFM. Air flow has been calculated for each AI- well and summed for each monitoring event in **Table 9**. The air flow into each AI well on June 6, 2019 is summarized in **Table 10** to provide a typical example of air flows. Gate valves are fitted on each of the AI compressed air lines and adjustment of these between open and closed is difficult. All of these gate valves are in a position of being minimally open. It is intended that these gate valves be replaced with either a higher quality valve or a pressure regulator for greater precision of air flow adjustment.

Monitoring of the air injection wells AI-1 through AI-5 had indicated no groundwater present since system startup. This is interpreted to be the result of groundwater being “pushed” away from the well screens during air injection. This is likely the result of those wells being completed in low permeability sediments. Therefore, instead of aerating groundwater and stripping VOCs with air streams through the saturated zone, these wells may serve as deeper vadose zone/capillary fringe wells with the potential to remove VOCs from the groundwater interface.

4.5 CONDENSATE AND LEACHATE COLLECTION SYSTEM

Condensate and leachate are produced in operation of the LFGES and 17 leachate collection pumps. The operational efficiency of the condensate and leachate production is similar to the LFGES at approximately 94%.

In October 2018, LFGES well GW-18A was drilled and completed to replace LFGES well GW-18. Borehole logging indicated that the interval of garbage is between 6 and 44 feet bgs. The resulting total depth of the well casing was 38 feet bgs and depth to leachate was 33 feet bgs indicating a 5-foot leachate interval. Additional subsurface description and well completion specification is contained in the well log (**Appendix E**).

Monitoring of the liquid level at the UST, between April 2018 and April 2019 indicated that the accumulation rate of the liquid was between 115 and 2,950 gallons per day (gpd). The average rate of accumulation of liquid, during this time period, was approximately 778 gpd. Most of this liquid is assumed to be leachate pumped from the LFGES wells. During late winter, spring, and early summer 2018, the rate increased significantly, ranging up to 2,950 gpd. This seasonal increase in the accumulation rate is attributed to snowmelt and rain infiltrating into and collecting in the waste. Between September and December 2018, the accumulation rate ranged between 189 and 589 gpd. From January to March 2019, the accumulation rate ranged from 150 gpd in January to 1,245 gpd in March.

In April 2019, three of the biggest producing leachate pumps (in LFGES wells GW-18A, GW-19, and GW-21) were shut off to maintain a manageable leachate accumulation rate and pumping schedule for the UST. The approximate accumulation rate prior to these pumps being shut off was 1,800 gpd. These pumps are re-opened when the accumulation rate drops to approximately 200 gpd.

Monthly sampling of the UST and analysis for metals, inorganic constituents, and VOCs indicate that arsenic, barium, lead, and nickel have been occasionally and minimally over regulatory standards. VOC analytical results indicate that vinyl chloride regularly exceeds regulatory standards at an average of 5 µg/L in the sample results. Beginning January 2019, the sampling protocol was changed to quarterly and annually for selected constituents to comply with USEPA and City of Bozeman industrial user discharge regulations. The sampling and analysis of samples and submittal of the semi-annual monitoring reports is separate from this report.

The formation of a precipitate (also referred to as scaling) has occurred in the lower portion of the 2-inch diameter HDPE, leachate drain pipeline (LDL). This scaling became evident in December 2018, when leachate was observed to be flowing out of an above-ground pipe tee off of the LDL at LFG well GW-11, which indicated blockage of the LDL downhill of LFG well GW-11. On January 31, 2019, the LDL was excavated uphill of the UST and at a location where the scale could be removed. The LDL was cut and a flexible, high water pressure jetting device was used to remove the scale that had formed in the LDL. Following, the clearing event two HDPE cleanouts were installed to facilitate future jetting operations to be conducted in two directions along the LDL without the need for excavation. The January jetting operations resulted in the un-impeded flow of leachate to the UST.

The scale collected was dark brown to black, brittle and 2 to 5 millimeters in thickness on the LDL pipe wall. Layers of this scale formed inside the LDL pipe and then could break off to form blockages. The scale deposits can be removed with high water pressure jetting. It was found that a sample of the scale dissolved when immersed in hydrochloric acid, which indicates it is likely a gypsum type precipitate, which is commonly found in landfill leachate lines.

In May 2019, leachate was again observed to be flowing out of the above-ground pipe tee off of the LDL at LFG well GW-11. This indicated another blockage was occurring in the LDL. On July 29, 2019, an excavation was conducted where there is a junction of two main lines of the LDLs. At the junction location, the LDLs underwent jetting in all directions (north towards the flare, east towards LFG well GW-16, and west towards the UST). Three cleanouts were installed along the LDL between the junction of the two main LDLs and the UST, thereby allowing future jetting operations to be conducted in two directions along this section of the LDL. The July jetting operations allowed for the un-impeded flow of leachate to the UST.

5.0 SUMMARY AND CONCLUSIONS

In consideration of the information presented in this report, the following summary and conclusions are provided below:

- Expansion of the LFGES and installation of an enclosed flare has resulted in an increase in operational efficiency and greater rate of removal/destruction of LFG. The previous system experienced more frequent shutdowns due to weather changes and system component malfunctions. The new system typically operates through weather changes, removes leachate from the waste, and removes LFG from a larger area in the Unlined Closed Cell. There is an average of 34% methane in the LFG. Calculated methane removal from the Unlined Closed Cell is 3,195 pounds per day.
- Since 1996 there have been dramatic decreases in VOC concentrations in groundwater across the site.
- Wells MW-17, MW-18, and MW-20 are along the south boundary of the landfill. During 2018 and through June 2019, wells MW-17 and MW-20 exceeded the GPS for PCE and well MW-18 exceeded the GPS for VC during most this period. A new development during 2018 and 2019 is the GPS exceedance of methylene chloride in well MW-17.
- There is a relationship between changes in VOC concentrations in groundwater and changes in groundwater elevations, wherein a decline of VOC concentrations tends to occur after a decline in groundwater elevations is observed, and vice versa. During 2014 through August 2016 a significant decline in VOC concentrations was observed in MW-12, MW-13, MW-17, MW-18 and MW-20, despite the fact that there was not a significant change in operation of the original LFGES. The decline in VOC concentrations coincided with a decline in groundwater elevations, after a 6 month to 1 year delay. This was followed by a period of rising groundwater elevations from late 2016 into 2019, which has roughly coincided with increasing VOC concentrations, particularly in MW-17

- Since startup of the SVE/AI remediation systems in August 2016, VOC concentrations in groundwater have fluctuated, with variability between individual sampling events and over longer periods. However, overall there is a declining trend in VOC concentrations in LF-3, MW-18, and MW-20. Wells that have historically shown low levels of VOCs have continued to remain below GPSs or method detection levels, with the exception of MW-17, where significant increases have been observed. The VOC increases in MW-17 have also coincided with a rising water level, however, the VOC increases are greater than typically observed with rising water levels. The cause of this increase is not clear, however, the location of MW-17 near the eastern end of the landfill gas extraction system indicates that complete capture of landfill gasses may not be occurring in that area. Wells SVE-8 and SVE-15 are immediately downgradient from MW-17 and provide a degree of treatment of groundwater in the area before it leaves the landfill property.
- The SVE system extracts soil gas along the south boundary of the landfill from 16 wells. Vacuum monitoring in soil gas probes and methane monitoring wells along the south boundary of the landfill indicate the development of a zone of vacuum from approximately BLG-5 to soil gas probe BSV-9. The estimated ROI using the “normalized vacuum” method ranges from 5 to 85 feet from wells (SVE-1, -2, -4 and -13) with inferred ROI (using any vacuum measurement during testing that was over 0.04 inWC) ranging from 28 to 111 ft as listed on **Table 8** and presented on **Figure 19**. Lithologic variabilities and the lack of vacuum monitoring points in some areas, probably accounts for this wide variability in estimated ROI.
- Portions of the south boundary cross-section in the vicinity of SVE-14, -15, and -16 (which are shallow SVE wells) appear to be outside of the ROI from nearby deeper SVE wells and there are not vacuum monitoring points in these areas to allow accurate assessment of the actual ROI. Hence, it is difficult to determine whether these deeper areas are within the ROI of an SVE well.
- With the addition of the leachate pump in replacement LFGES well GW-18A, there are now a total of 17 leachate pumps in the LFGES wells. Monitoring of the UST, between April 2018 and April 2019 indicated that the accumulation rate of the liquid was between 115 and 2,950 gpd. In April 2019, three of the biggest producing pumps (in LFGES wells GW-18A, GW-19, and GW-21) were shut off to maintain a manageable accumulation rate and pumping schedule for the UST. The approximate accumulation rate prior to these pumps being shut off was 1,800 gps. These pumps are re-opened whenever the accumulation rate drops to approximately 200 gps.
- The increase in leachate recovery observed at the UST in the late winter and spring indicates the landfill cover may not be universally effective in preventing infiltration of rainwater and snowmelt. During construction of the LFGES, several areas of the Unlined Closed Cell were observed to have cover thicknesses of as little as one foot, which is less than original designs and indicative of susceptibility to surface water infiltration and/or release of LFGs.

6.0 RECOMMENDATIONS

In consideration of the summary and conclusions presented above, the following recommendations have been developed:

1. Continue to conduct quarterly groundwater monitoring events in March and September of each year, through 2020 in wells LF-2, LF-3, MW-12, MW-17, MW-18, and MW-20 to supplement the DEQ requirement of June and December monitoring. This will provide additional data to support analysis of the fluctuations in VOC concentrations in groundwater. This will also help future evaluations of the LFGES and SVE/AI remediation systems performance relative to groundwater remediation.

2. The increases in VOC concentrations in groundwater in well MW-17, including the appearance of methylene chloride above GPS for the first time since a single occurrence in 2015, indicates the need to improve landfill gas capture in the southeast corner of the landfill. We recommend conducting a brief feasibility study to evaluate whether increasing air flow from nearby LFGES wells and/or installing one or two additional LFG wells or SVE wells in that area will reduce VOC concentrations in groundwater. The evaluation criteria will include the ability of nearby LFGES wells to affect a vacuum across a larger portion of the southeast corner of the property based on the extent and thickness of refuse in the area and the practicality of installing one or two new wells that will have minimal disturbance on the operations of the Convenience Site and landfill access road.
3. The ROI investigation identified that ROIs are variable across the site and in general less than the ROI used during design of the SVE system (estimated at 120 ft based on testing at SVE-1 and SVE-2). We recommend that two new SVE wells with screened intervals from 40 to 70 ft BGS be installed near the location of SVE 15 and SVE-16. These new wells should be designed to intersect the vadose zone below SVE-15 and SVE-16, which are only screened to approximately 25 ft BGS. We also recommend installation of a third new SVE well near SVE-14 with a screened interval from 35 to 50 ft BGS. SVE-14 is only screened to approximately 25 ft BGS, so this new well would be designed to intersect the deeper vadose zone.
4. Based on analysis of the results of the SVE radius of influence tests, extractive air flows in the network of SVE wells should be adjusted to provide more extractive air flow where it appears to be warranted (i.e., areas where the radius of influence of SVE wells is less than their spacing). However, flows should not be increased to the point where methane concentrations increase (an indication landfill gasses are being pulled directly from the refuse towards the southern boundary of the landfill). Follow-up monitoring should be conducted to determine if vacuum is then developed consistently across the vertical interval in this area.
5. Leachate should continue to be pumped from the LFGES extraction wells. The rate of leachate pumping is reduced during the spring due to the leachate volume filling the UST almost daily, which poses logistical challenges related to emptying the UST. We recommend direct piping of the UST to the City sewer located in the southwest corner of the landfill, which would reduce operating costs for the LFGES and allow maximum leachate pumping rates from the LFGES wells.
6. Conduct periodic (probably semi-annual) physical scouring of precipitate out of the leachate drain line pipe to remove scale that periodically clogs the pipe. This approach is recommended over injection of an acid or other compound into the leachate drain line to prevent the scaling, due to challenges with hazardous material (concentrated hydrochloric acid) handling and the possibility for hazardous waste creation by the injection of acid.
7. The surface emissions sweep of the landfill cover did not identify escape of methane from the cover that would trigger New Source Performance Standards compliance issues. However, it did indicate two areas of elevated methane concentrations and visual observations during trenching in 2016 for the expanded LFGES indicate that portions of the cover are as thin as only one foot thick, which is less than the original 1995 design thickness of up to three feet. The dramatic increase of water flowing through the refuse in the landfill during the Spring and early Summer indicates that significant snowmelt is infiltrating the cover and entering the refuse. This relates to Recommendation #5 and management of the leachate pumped from the LFGES wells during the spring and early summer. A brief evaluation of the effectiveness of the landfill cover should be conducted and recommendations developed. The end result may be repairs to the current cover and/or the design and construction of a thicker and lower permeability cover on some portions of the landfill.

7.0 REFERENCES

- T.C. Blair and McPherson, J.G. 1994.** Processes and Forms of Alluvial Fans in Geomorphology of Desert Environments, 2nd Edition. Parsons and Abrahams (eds), 2009.
- DEQ, 2017.** Circular DEQ-7 Montana Numeric Water Quality Standards. May.
- DEQ, 2011.** Vapor Intrusion Guide. April 22.
- Hughes, G.C. 1980.** Tertiary Stratigraphy and Depositional History of the Dry Creek Valley, Gallatin Co., Montana. MSU M.S. thesis, 147.
- Huntingdon, 1994.** January 1994 Groundwater Monitoring Report for the City of Bozeman Sanitary Landfill, Gallatin County, Montana. March 1994.
- Maxim 1995.** Corrective Measures Assessment. Submitted to City of Bozeman. August.
- H. G. Reading (editor), 1986.** Sedimentary Environments. Chapter 3, page 57. Blackwell Publishing.
- Tetra Tech, 2019.** Task Order – Groundwater and Perimeter Methane Monitoring Assessment of System Performance and Effectiveness. Submitted to City of Bozeman. February 28.
- Tetra Tech, 2019a.** Report of Groundwater Monitoring Activities – August 2018, Bozeman Landfill. Report submitted to City of Bozeman and Montana DEQ. January.
- Tetra Tech, 2019b.** Report of Groundwater Monitoring Activities – November 2018, Bozeman Landfill. Report submitted to City of Bozeman and Montana DEQ. April.
- Tetra Tech, 2019c.** Report of Groundwater Monitoring Activities – June 2019, Bozeman Landfill. Report submitted to City of Bozeman and Montana DEQ. November
- Tetra Tech, 2018.** Task Order – Groundwater and Perimeter Methane Monitoring Assessment of System Performance and Effectiveness. Submitted to City of Bozeman. January 25.
- Tetra Tech, 2018a.** Initial Remediation System Evaluation, Bozeman Landfill. Report submitted to City of Bozeman and Montana DEQ. March.
- Tetra Tech, 2018b.** Construction Completion Report, LFG, SVE/AI and Treatment System, Bozeman Landfill. Report submitted to City of Bozeman. April 24, 2019.
- Tetra Tech, 2015.** Groundwater Monitoring Sampling and Analysis Plan, City of Bozeman Sanitary Landfill. Plan submitted to City of Bozeman and Montana DEQ. November 12.
- Tetra Tech, 2015a.** Story Mill Landfill Basis of Design for Landfill Gas and Soil Vapor Extraction System, City of Bozeman Sanitary Landfill. Plan submitted to City of Bozeman and Montana DEQ. July 2015
- Tetra Tech, 2014.** Revised Corrective Measures Assessment. Submitted to City of Bozeman. September.
- Tetra Tech, 2014a.** Report of Monitoring Well Installation and Groundwater Monitoring Activities – March through May, 2014, Bozeman Landfill. Report submitted to City of Bozeman and Montana DEQ. July, 2014
- USGS, 1960.** Geology and Ground-Water Resources of the Gallatin Valley, Gallatin County, Montana. Water Supply Paper 1482. Washington, D.C.
- Vuke, S.M., Lonn, J.D., Berg, R.B., and Schmidt, C.J., 2014.** Geologic map of the Bozeman 30' x 60' quadrangle, southwestern Montana: Montana Bureau of Mines and Geology Open-File Report 648, 44 p., 1 sheet, scale 1:100,000.

ONLINE REFERENCE

Administrative Rules of Montana – Solid Waste

<http://deq.mt.gov/Land/solidwaste/lawsrules>

Agency for Toxic Substances & Disease Registry – Minimum Risk Levels

<https://www.atsdr.cdc.gov/mrls/index.asp>

Bozeman Area Climate

<https://www.usclimatedata.com/climate.php?location=USMT0040>

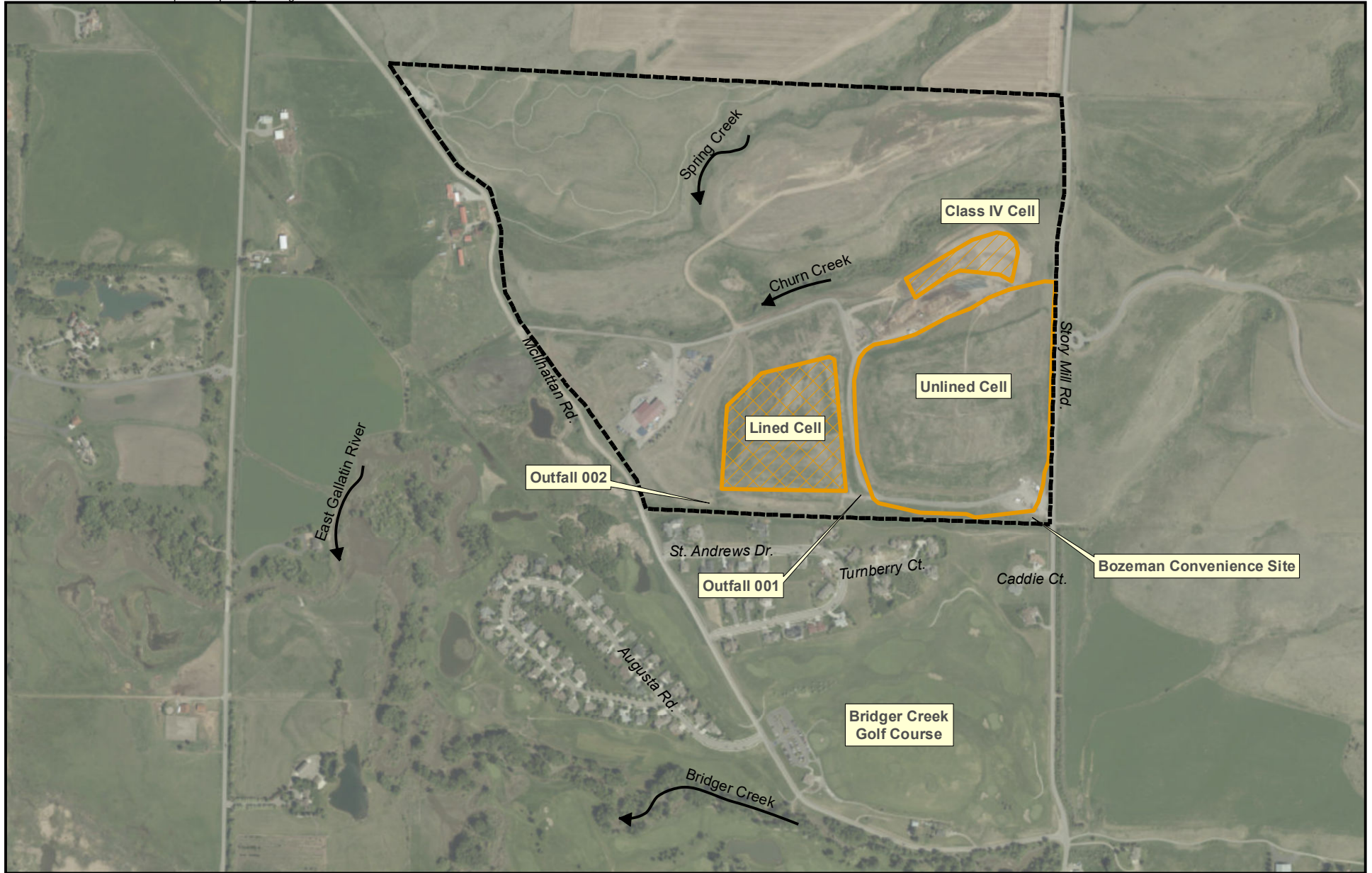
USEPA Regional Screening Levels – Generic Tables

<https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>

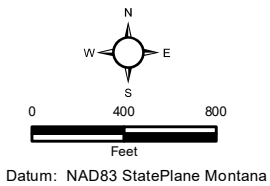
USEPA National Primary Drinking Water Regulations

<https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations>



FIGURES

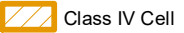
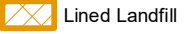
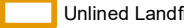


114-710336D
11/11/2019



NOTE:
All station locations and landfill
boundary are approximate

 Landfill Property Boundary
 Flow Direction

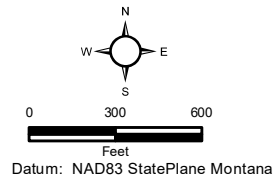
 Class IV Cell
 Lined Landfill
 Unlined Landfill

**Site Plan
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 1**

C:\CDdata\Bozeman\LRRemEval\RptA\remap\BLF_RSEFig2GWMwells.mxd



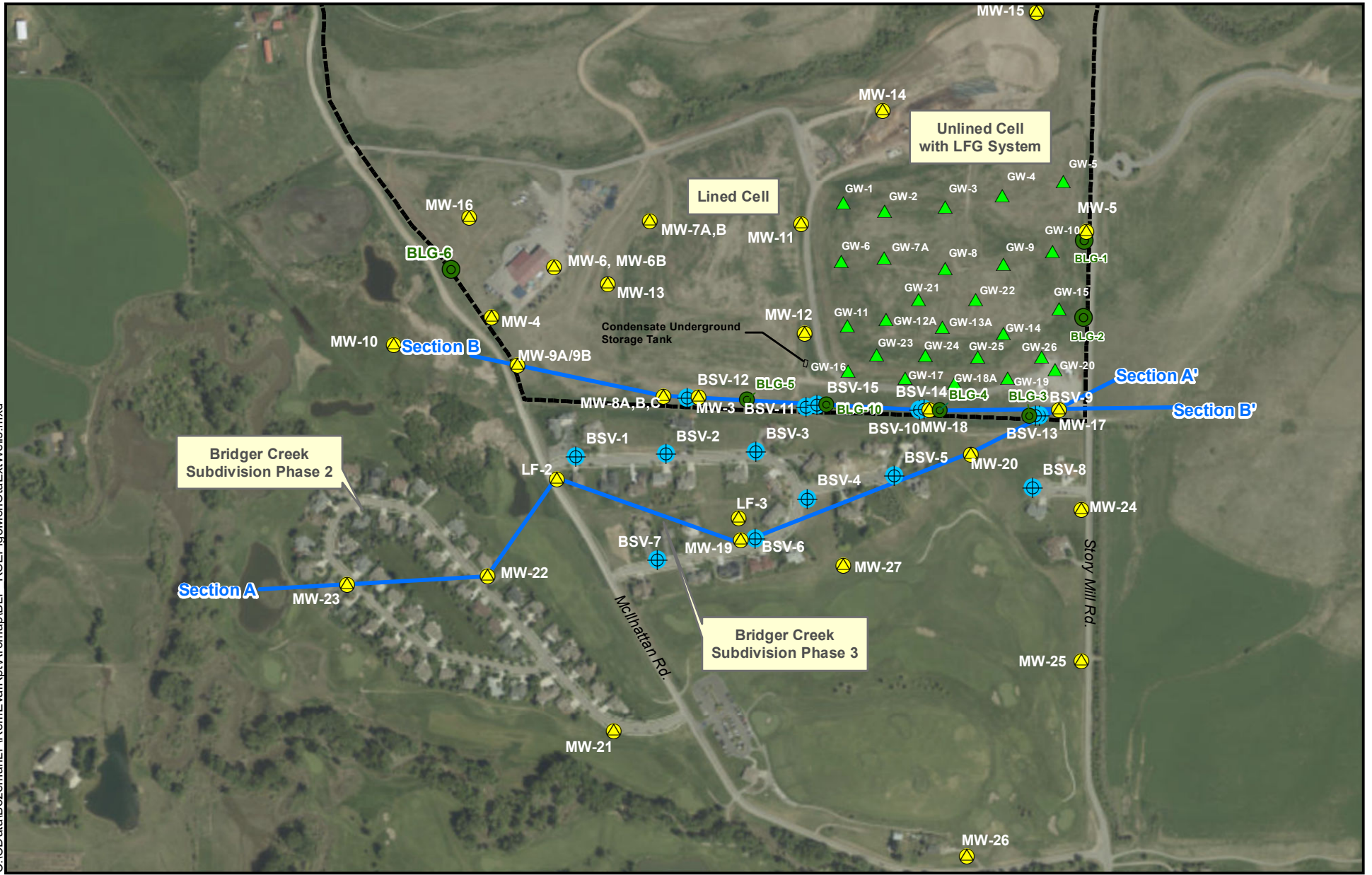
114-710326D
11/11/2019



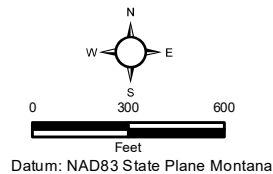
NOTE:
All locations are approximate.

**Groundwater Monitoring Locations
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 2**

C:\CD\data\Bozeman\LPRem\Eval\Rpt\A\remap\BLF_RSE\Fig3\MonStaExtWells.mxd



114-710326D
11/11/2019

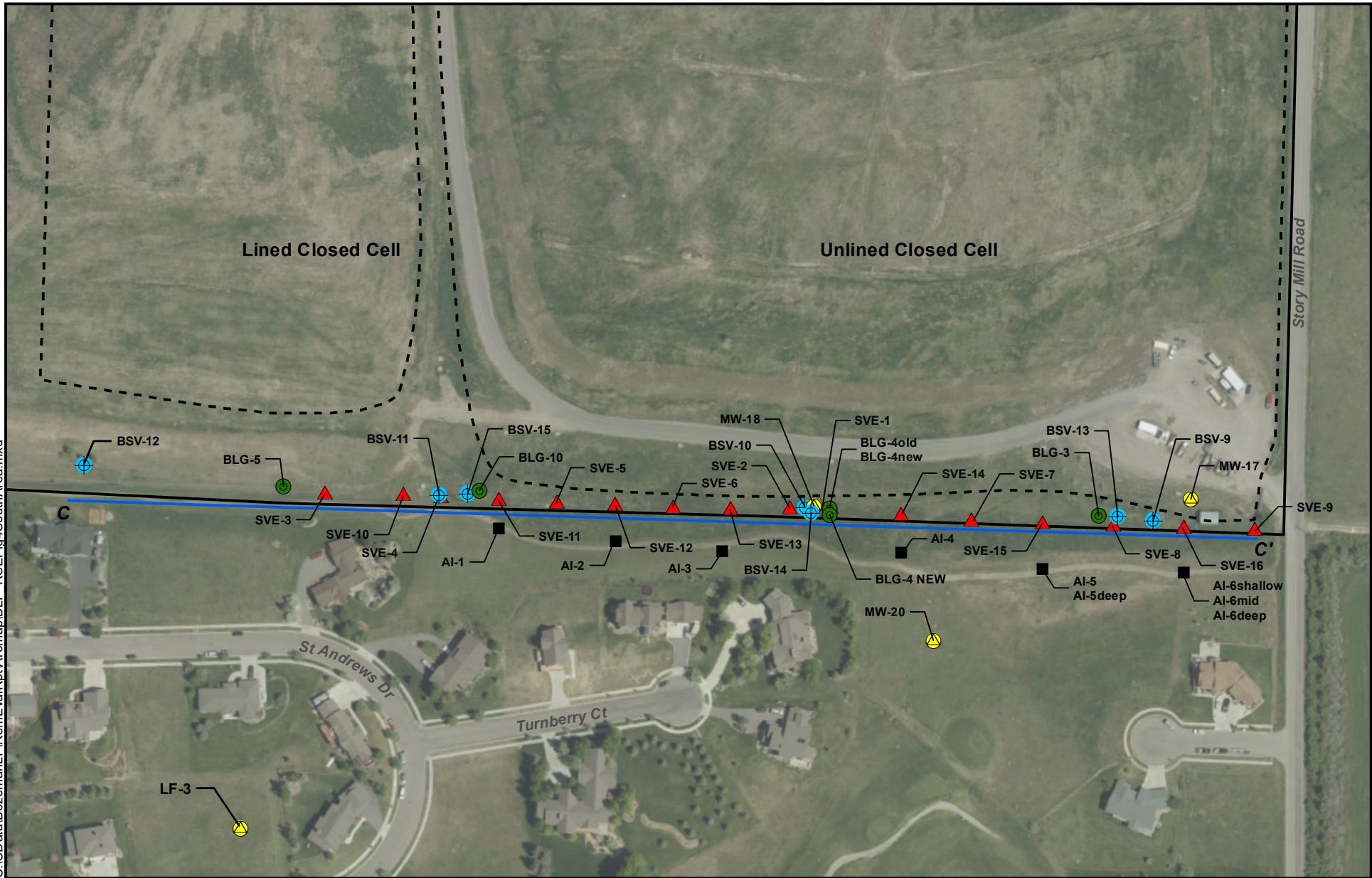
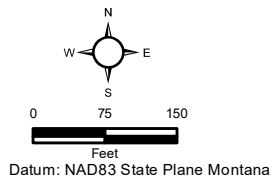


- Soil Gas Probe
- Groundwater Monitoring Well
- Methane Monitoring Well
- Surface Water Monitoring Site
- Landfill Gas Extraction Well
- Stratigraphic Cross Section Line (shown in Figure 5)
- Landfill Property Boundary

**Landfill Gas Extraction System
and Monitoring Network
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 3**

C:\CD\data\Bozeman\LFRemEval\Rpt\Aremap\BLF_RSEFig4SouthArea.mxd

114-710326D
11/21/2019



--- Waste Boundary
 — Landfill Boundary

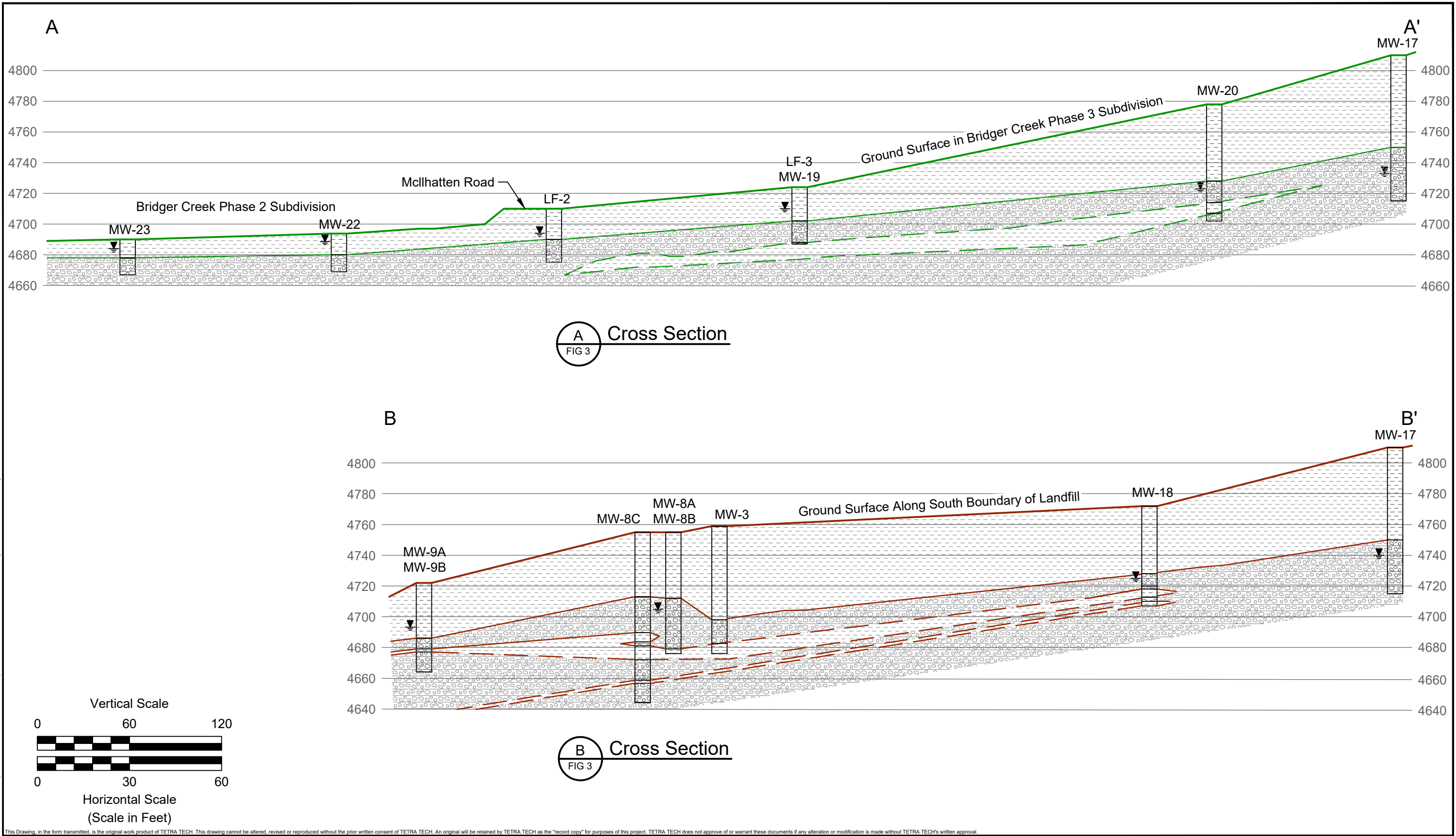
■ Air Injection Well
 ● Groundwater Monitoring Well
 ● Methane Monitoring Well

⊕ Soil Gas Probe
 ▲ Soil Vapor Extraction Well (SVE)
 — Stratigraphic Cross Section Line
 (shown in Figures 19)

Soil Vapor Extraction and Air Injection System Wells Remediation System Evaluation Bozeman Landfill Bozeman, Montana

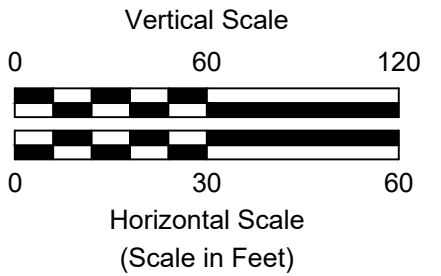
FIGURE 4

C:\A-G\Bozeman City of 114-560487C - 2018-19 Rem Systems OS107-CAD\Sheet Files\F-5-Stratigraphic Cross Sections.dwg SAVED:5/6/19 PRINTED:5/6/19 BY:STEVE FIELD



A Cross Section
FIG 3

B Cross Section
FIG 3

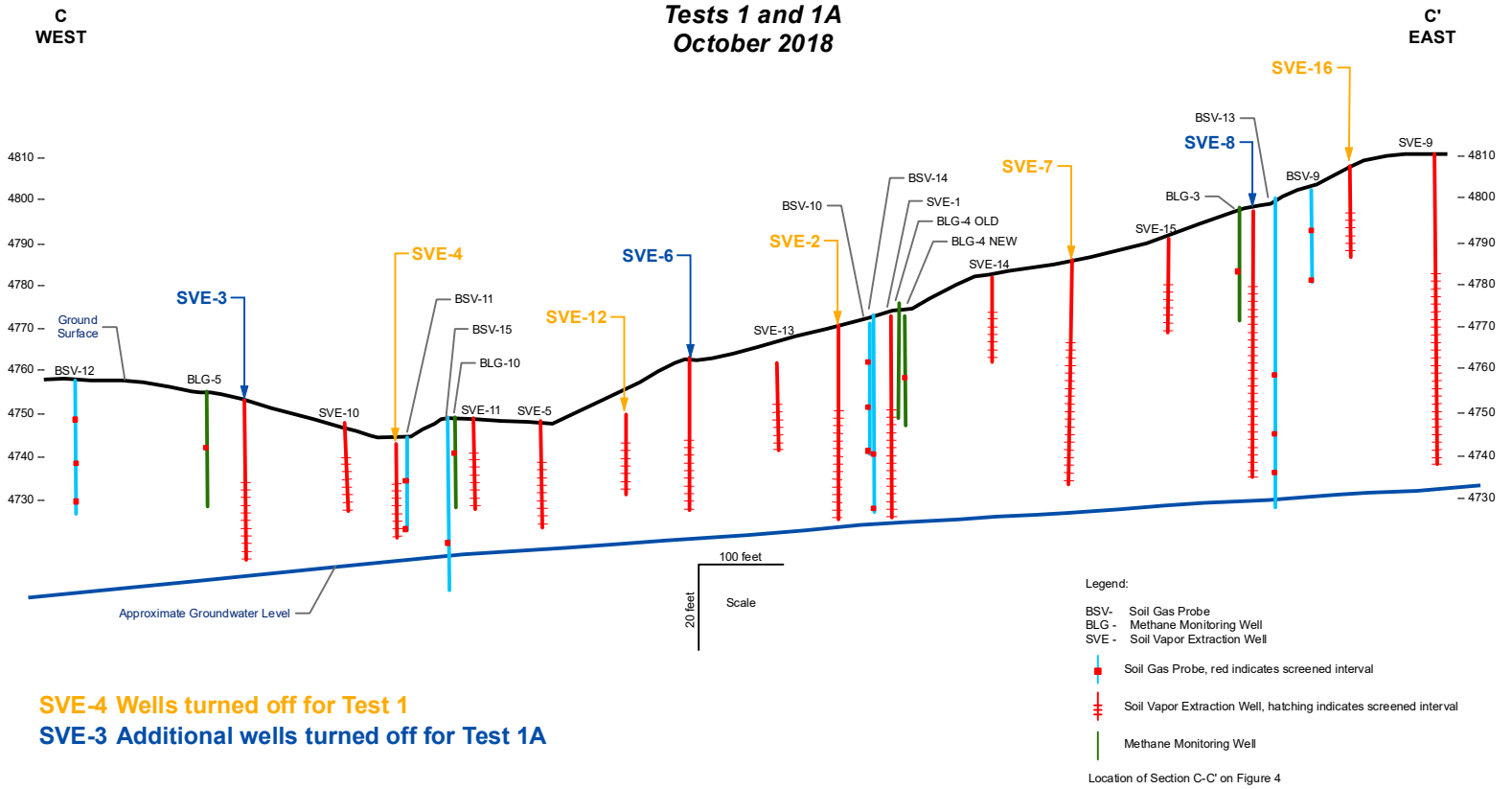


- ▼ Static Groundwater Level
- MW-17 Monitoring Well
- █ Dominant Sandy to Clayey Silt or Silty Clay
- █ Gravelly Intervals in a Silt, Clay, and/or Fine Sand Matrix

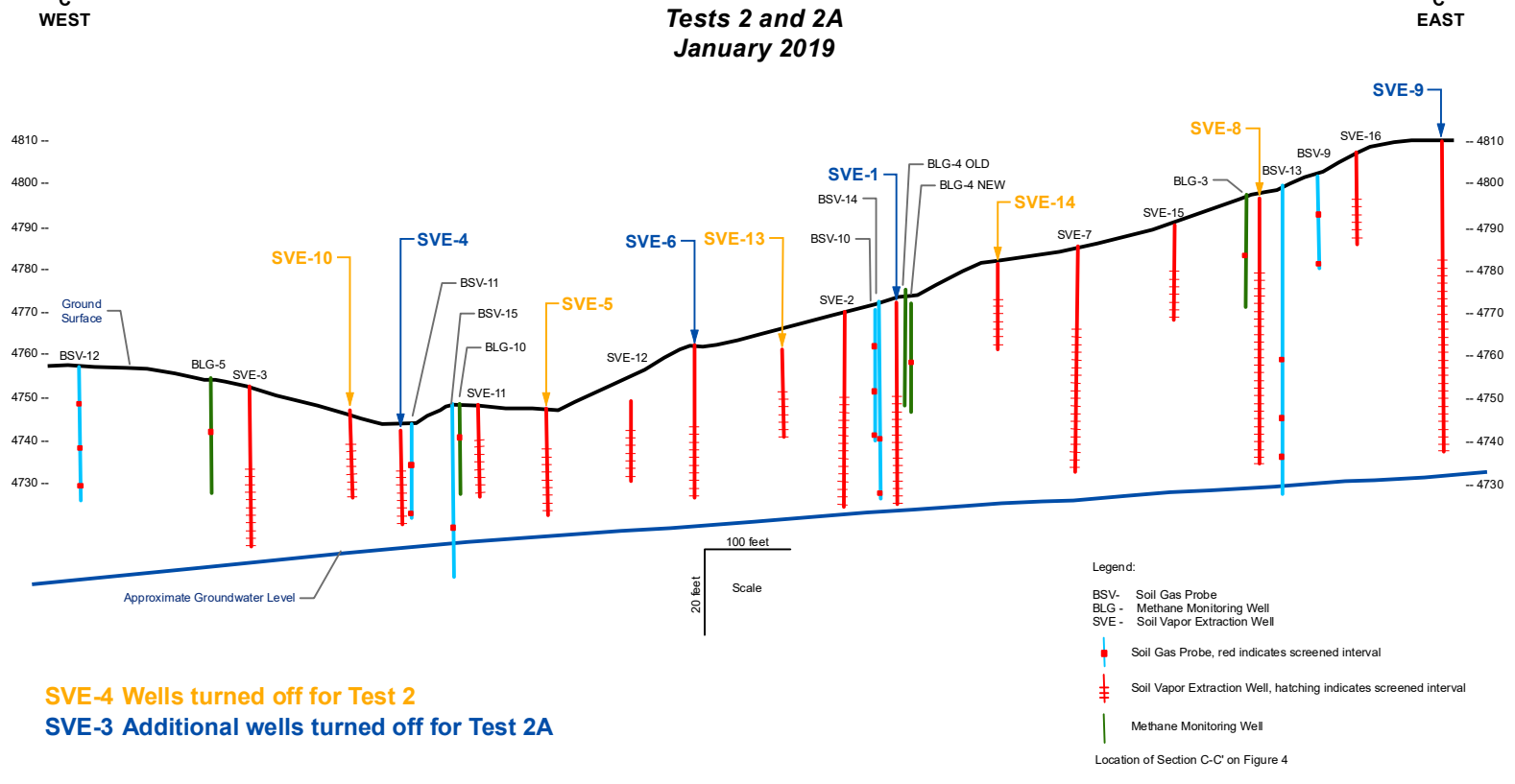
- Notes**
1. Horizontal scale is approximate.
 2. Static groundwater level measurements collected in November 2018.
 3. Cross sections locations shown on Figure 3.



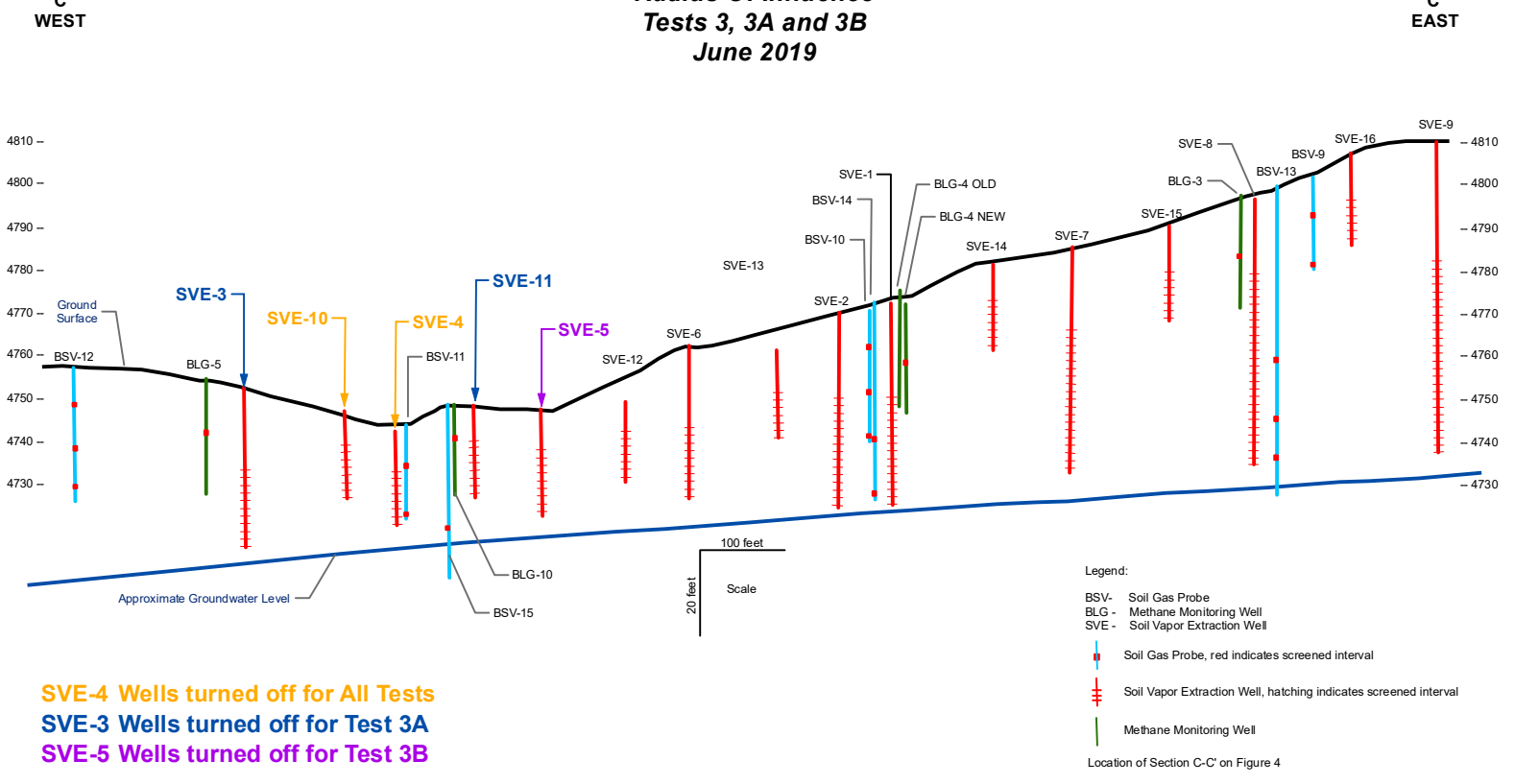
SVE Wells Closed For Radius Of Influence Tests 1 and 1A October 2018



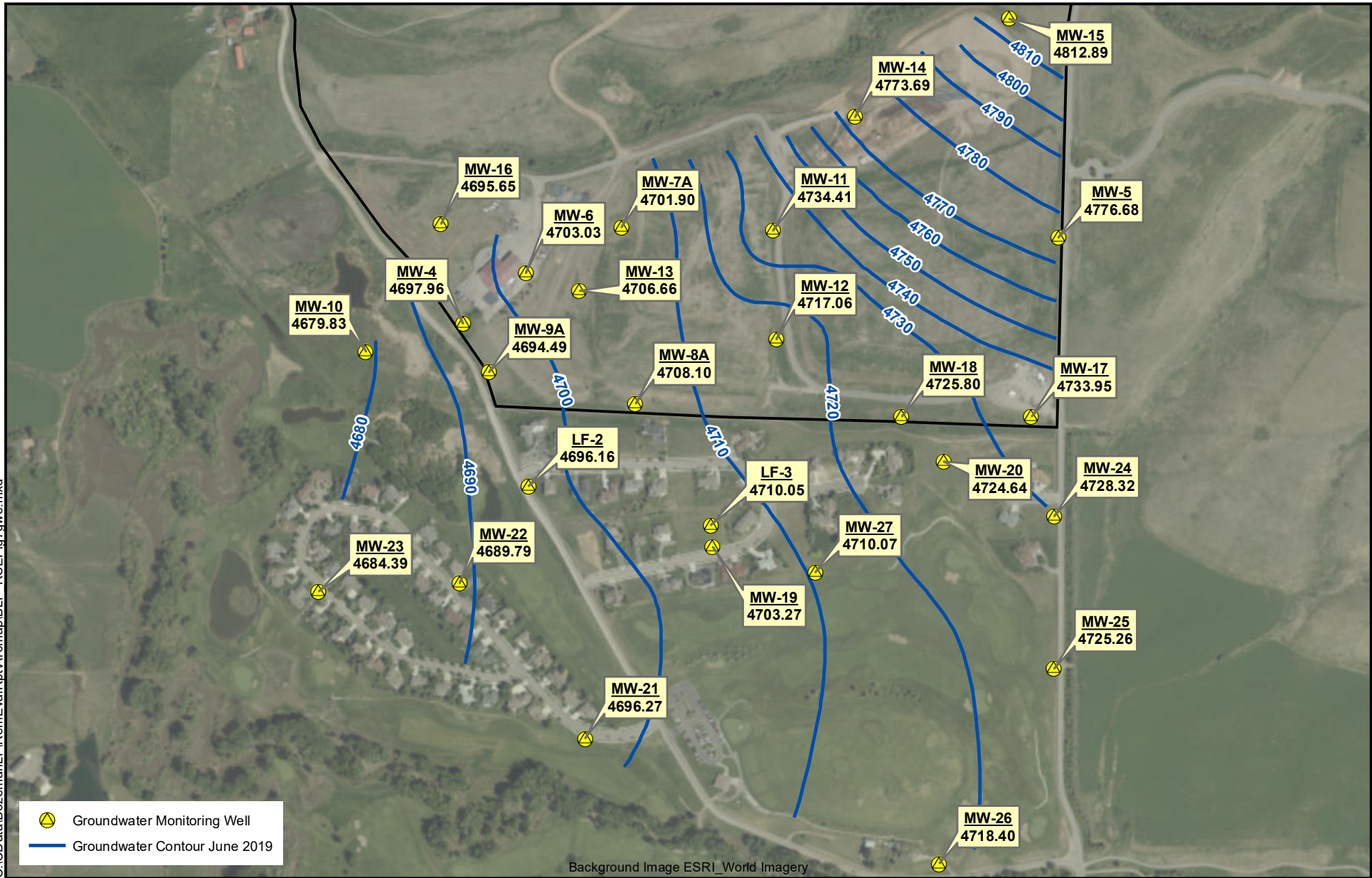
SVE Wells Closed For Radius Of Influence Tests 2 and 2A January 2019



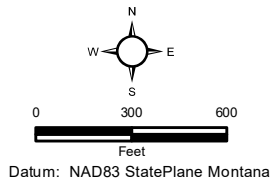
SVE Wells Closed For Radius Of Influence Tests 3, 3A and 3B June 2019



C:\CD\data\Bozeman\LFRem\Eval\Rpt\Aromap\BLF_RSEFig7gwe.mxd

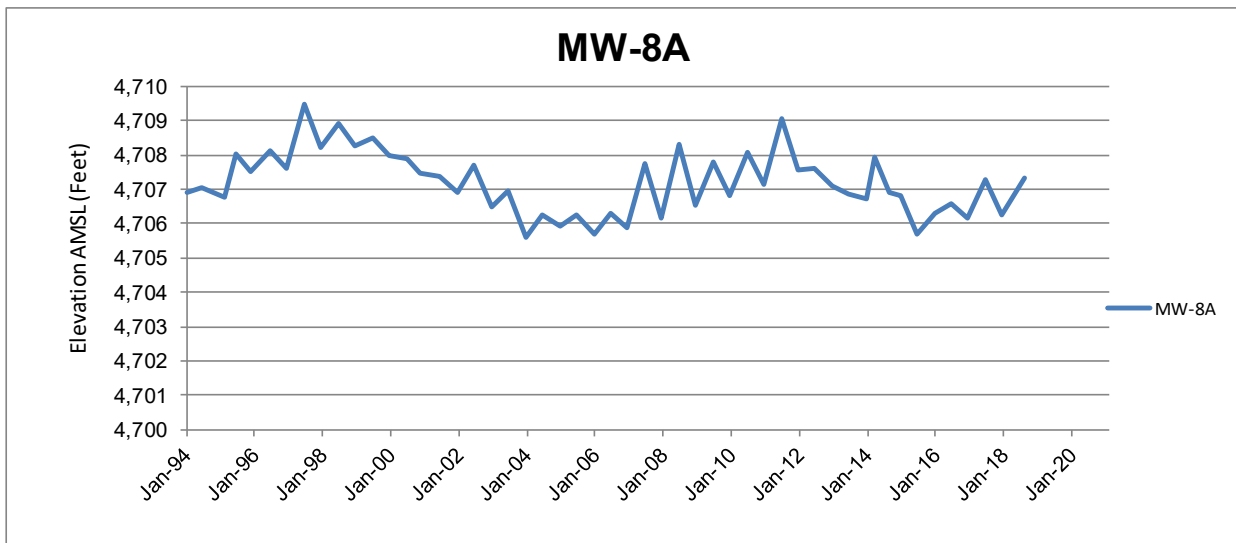
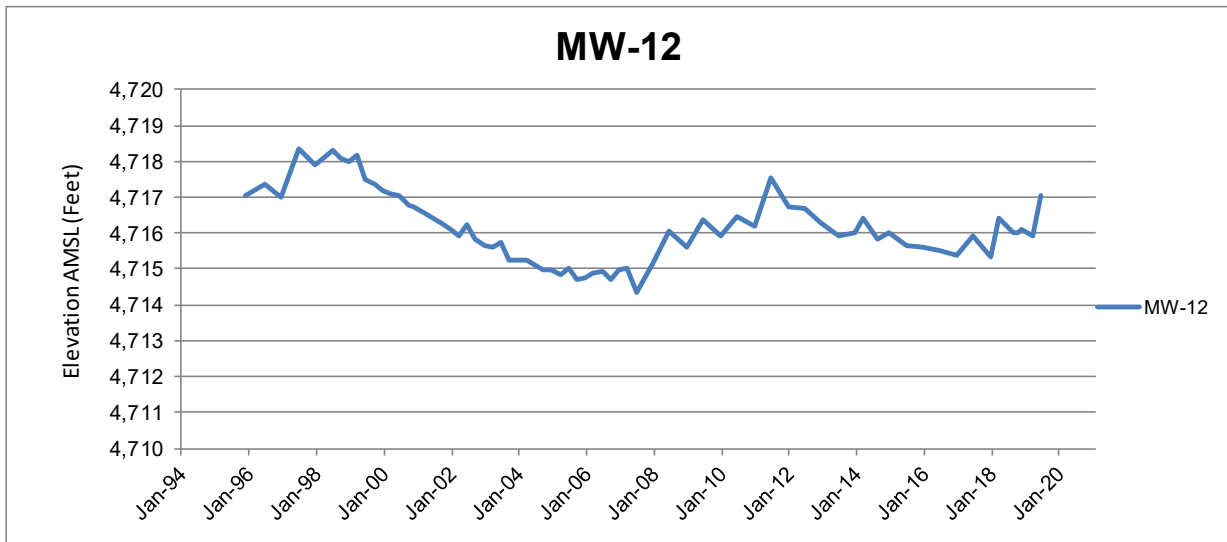
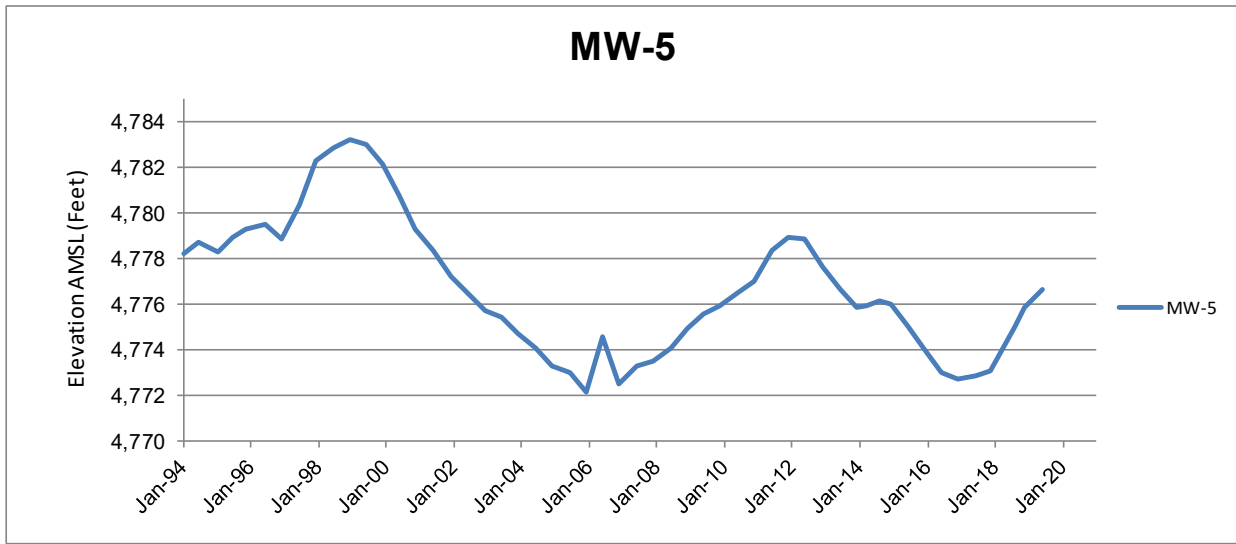


114-710326D
11/11/2019



NOTE:
 All well locations are approximate.
 Only those wells used for preparation of groundwater contour map are shown
 NM=Not Measured

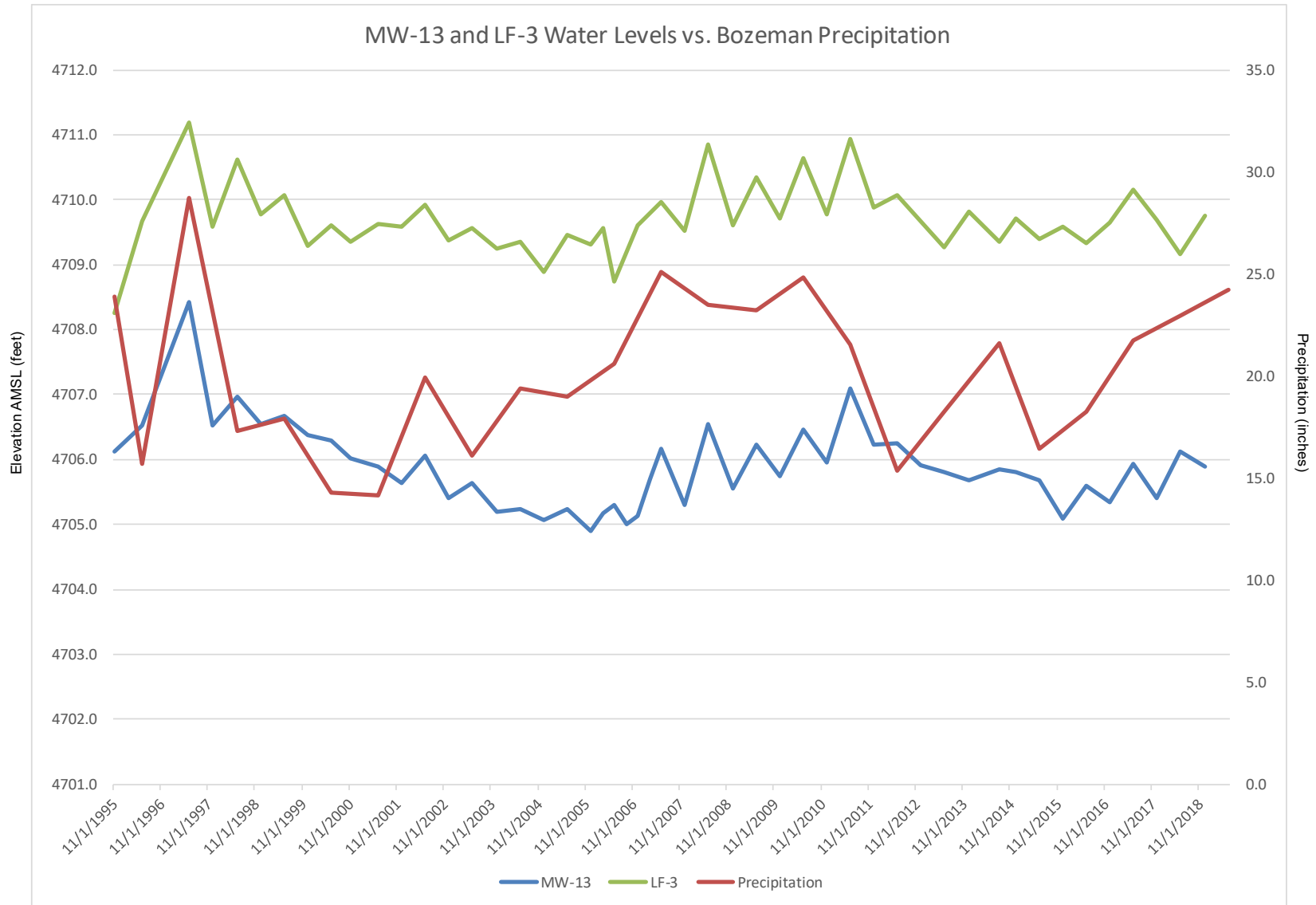
**June 2019 - Groundwater Contour Map
 Remediation System Evaluation
 Bozeman Landfill
 Bozeman, Montana
 FIGURE 7**



114-710326D
11/11/2019

**Groundwater Elevations Since 1994
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 8**

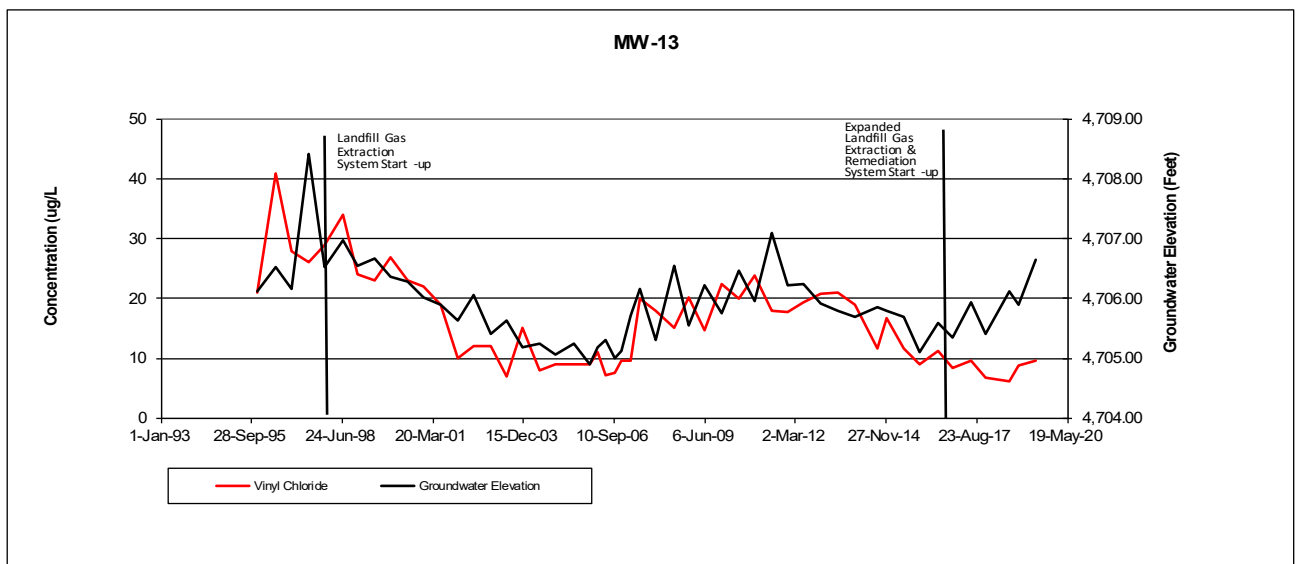
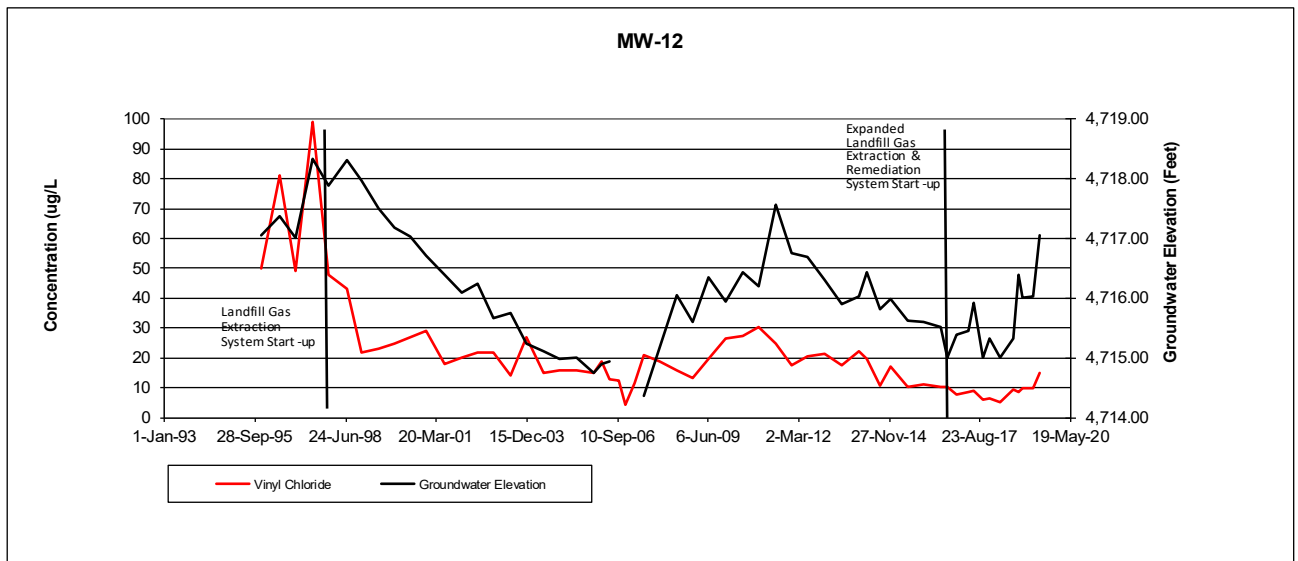
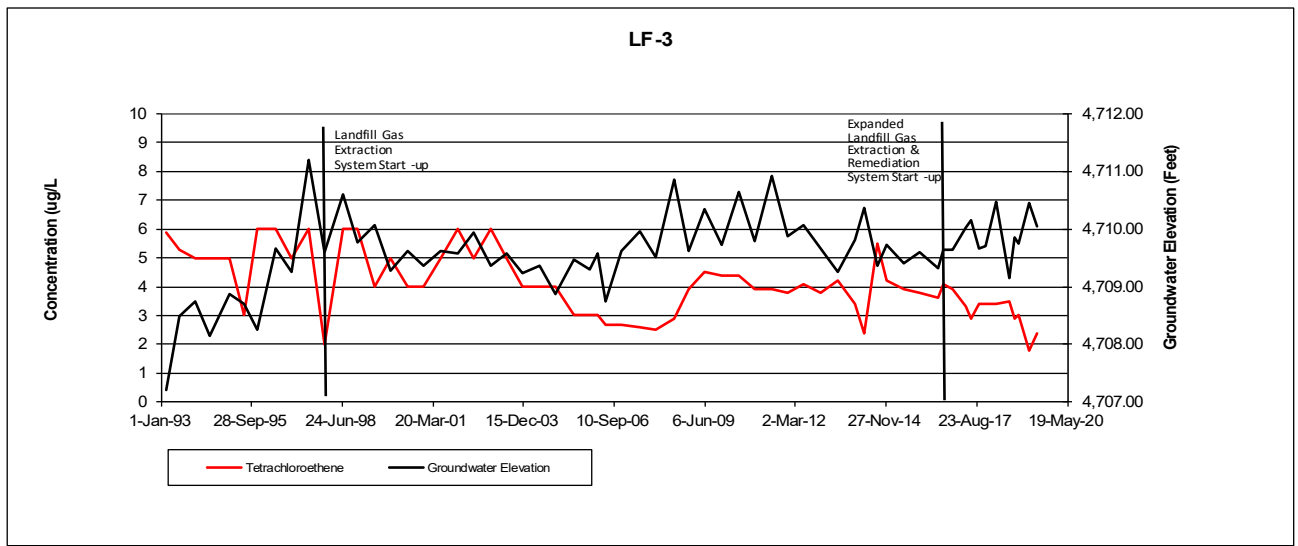




114-710326D
11/11/2019



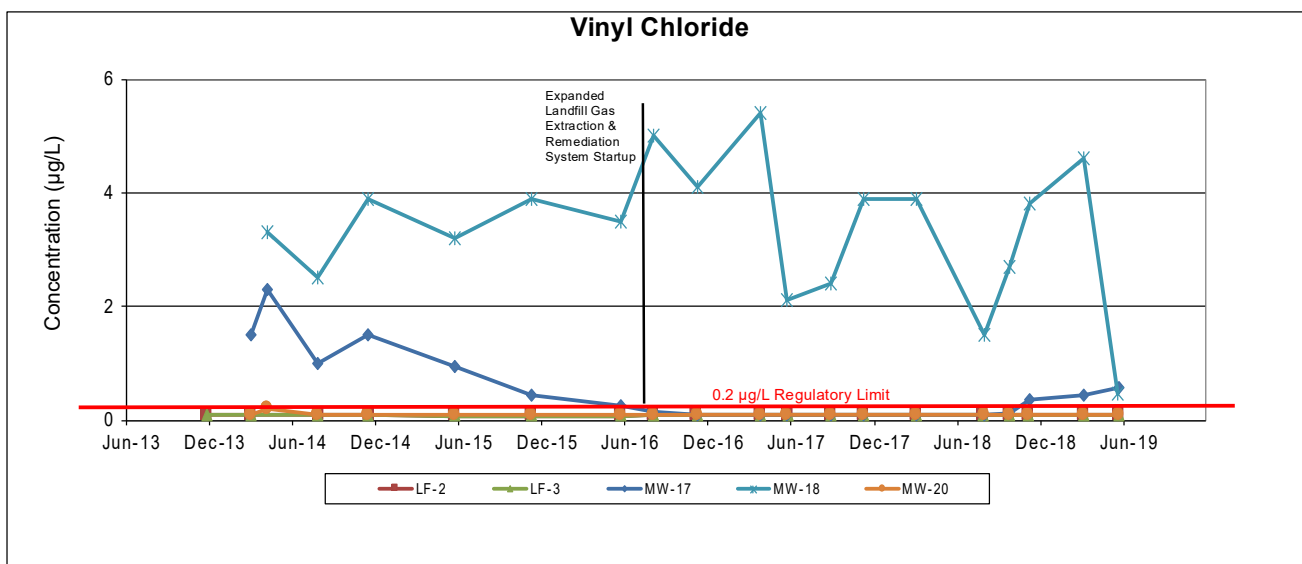
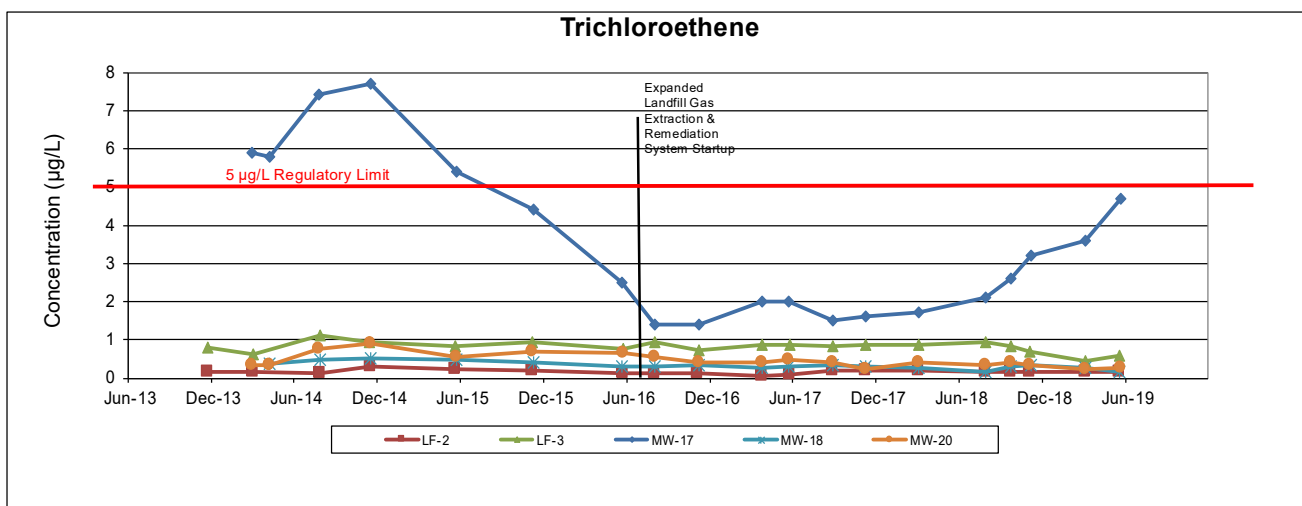
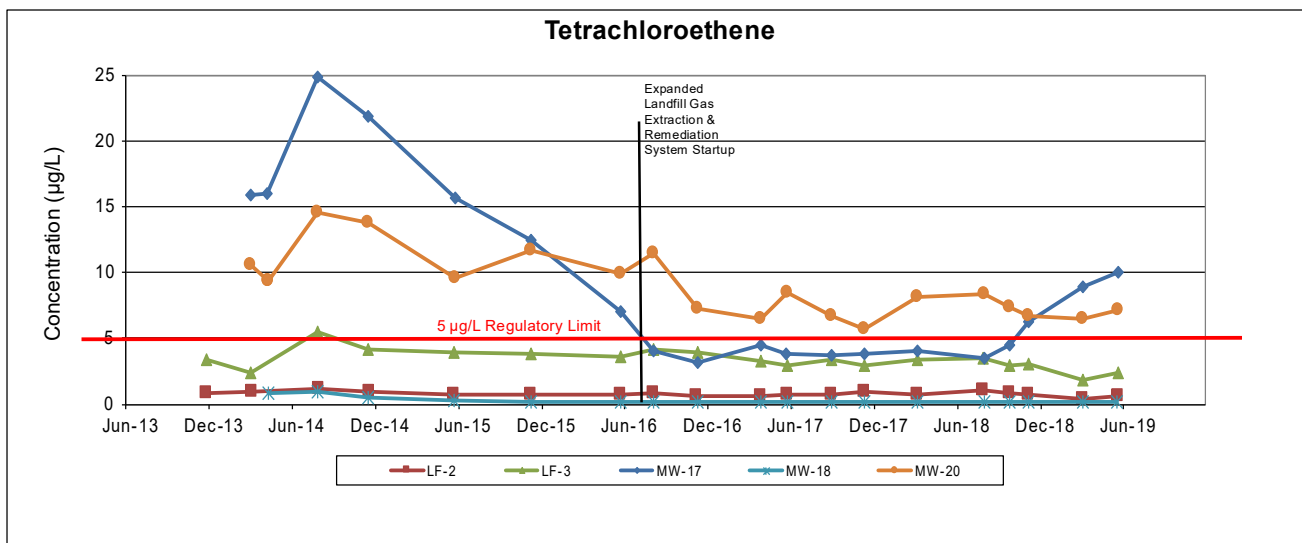
**MW-13 and LF-3 Water Levels
and Bozeman Precipitation
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 9**



114-710326D
11/11/2019

**VOC Concentrations and Groundwater Elevations Since 1994
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 10**

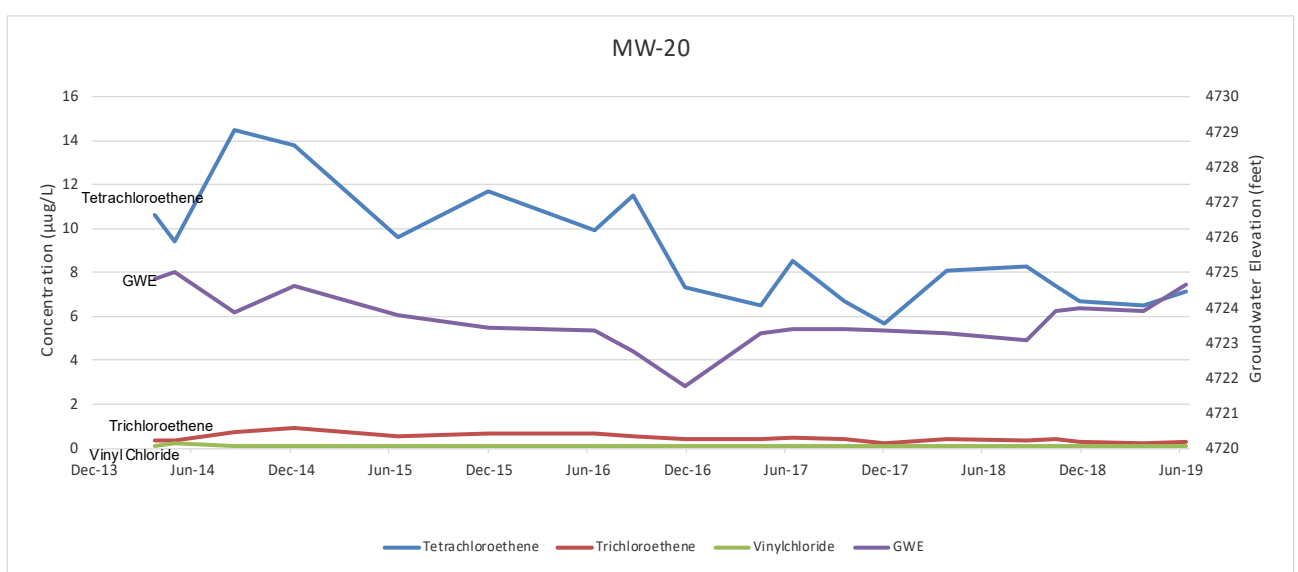
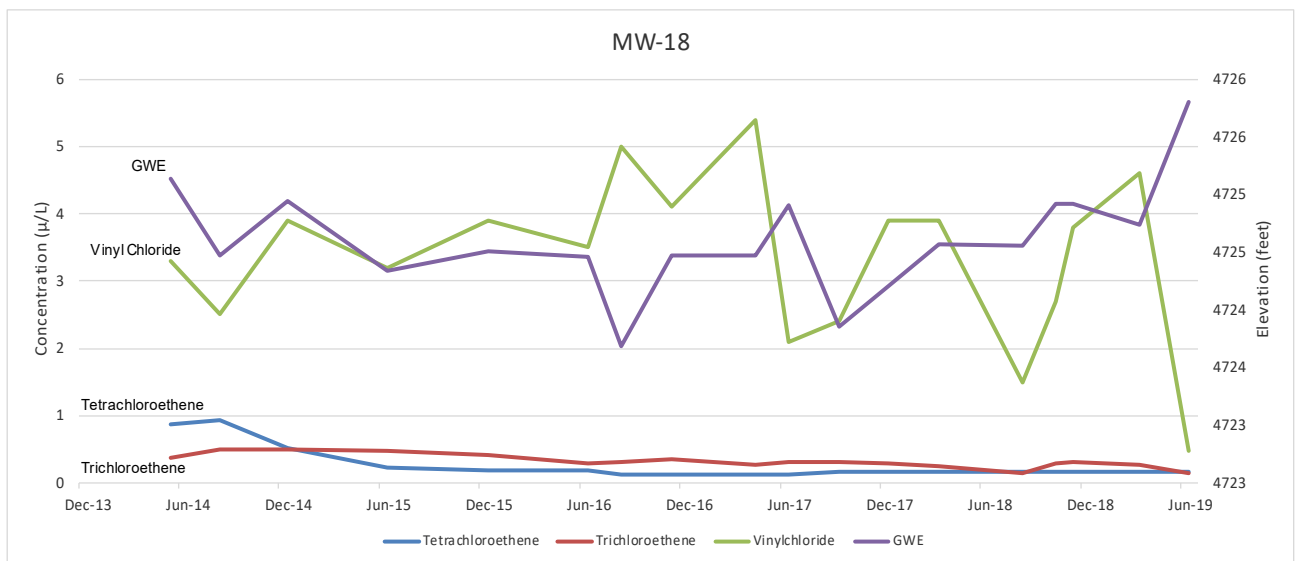
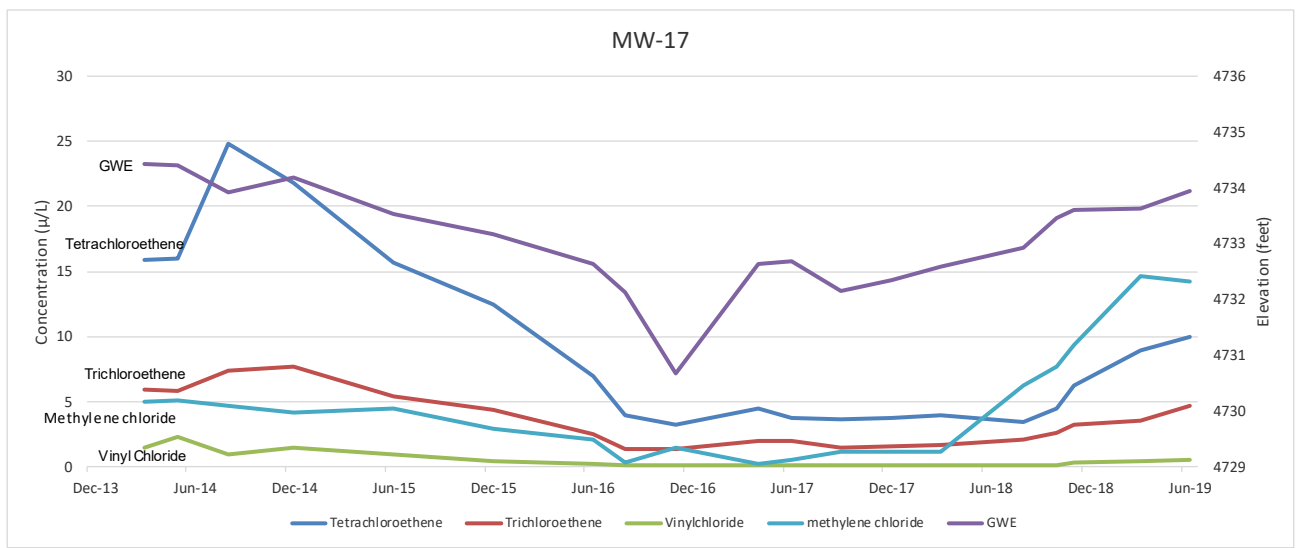




114-710326D
11/21/2019

**VOC Concentrations in Wells
Near Southern Boundary
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 11**

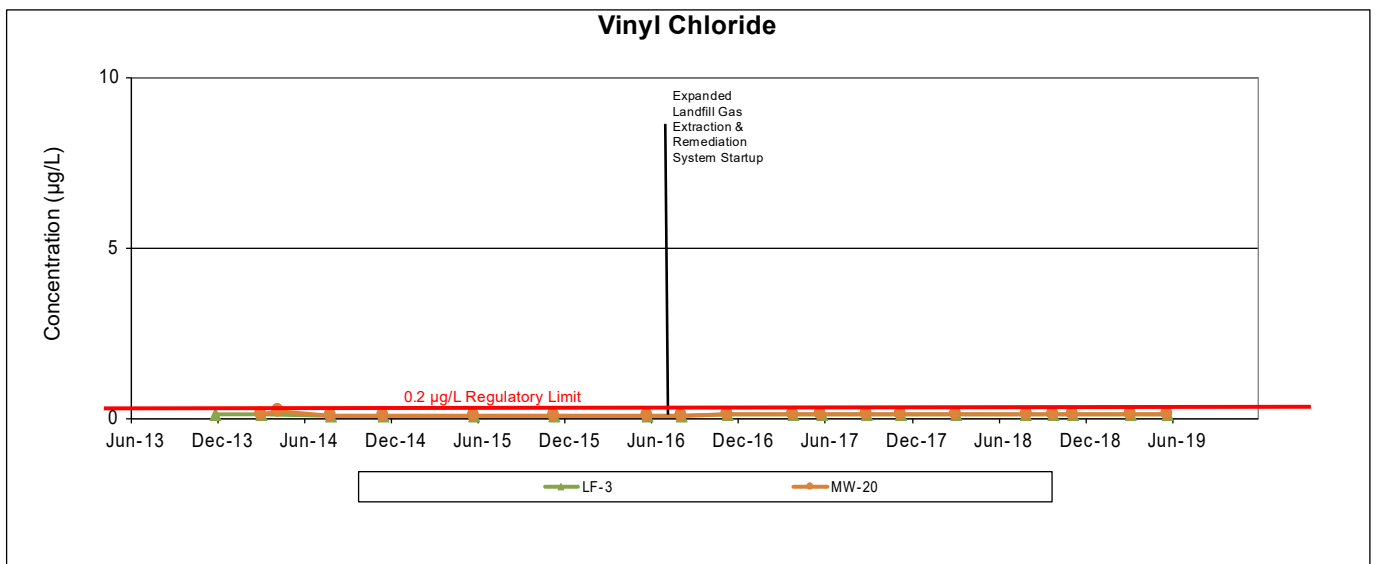
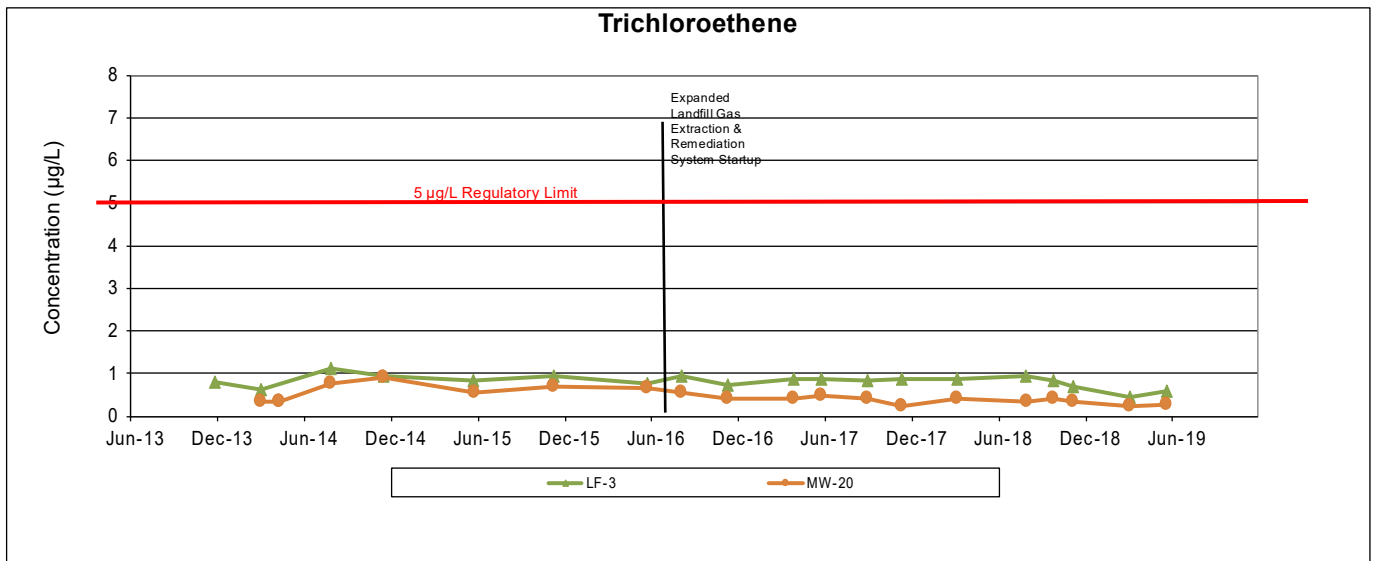
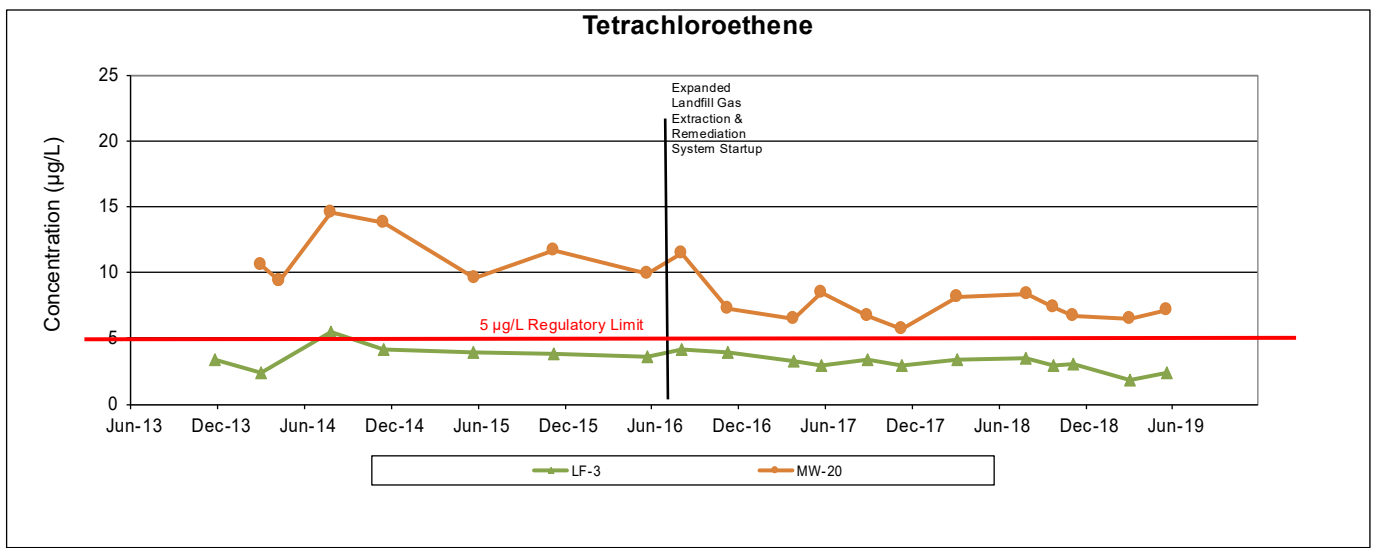




114-710326D
11/11/2019

**VOC Concentrations and Groundwater Elevations
in MW-17, MW-18 and MW-20 Since 2014
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 12**

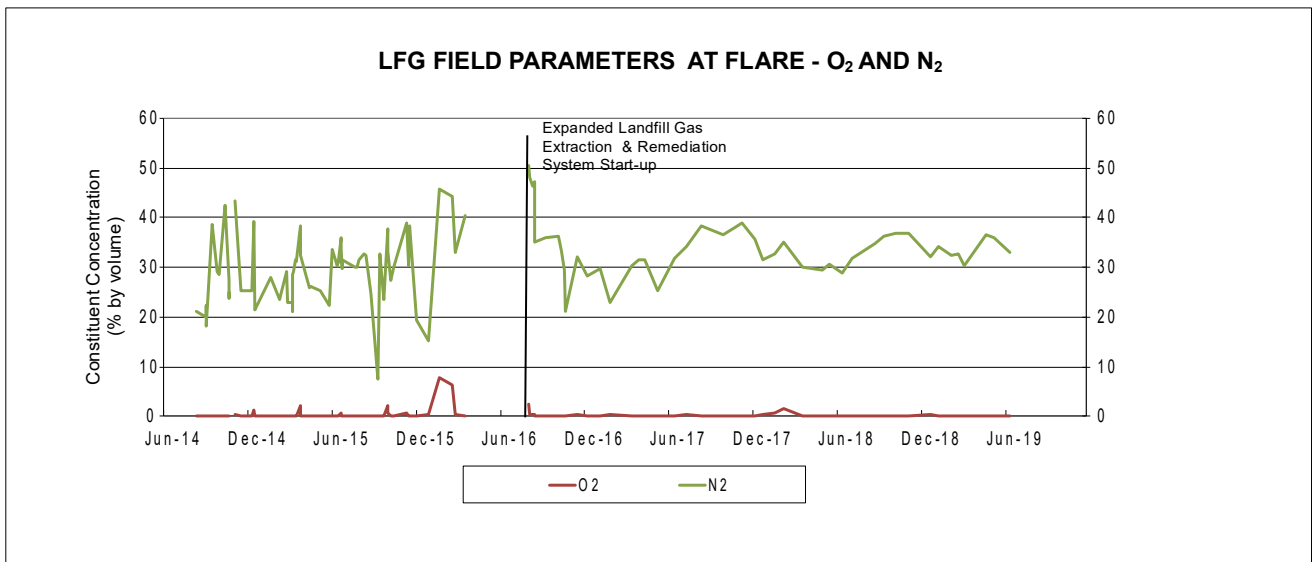
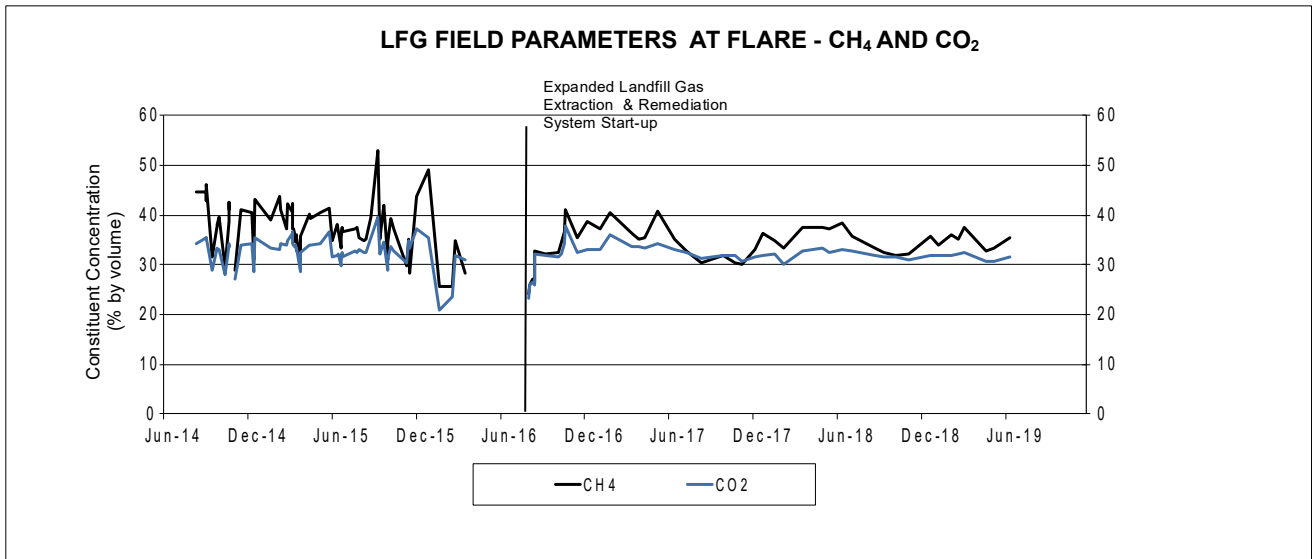
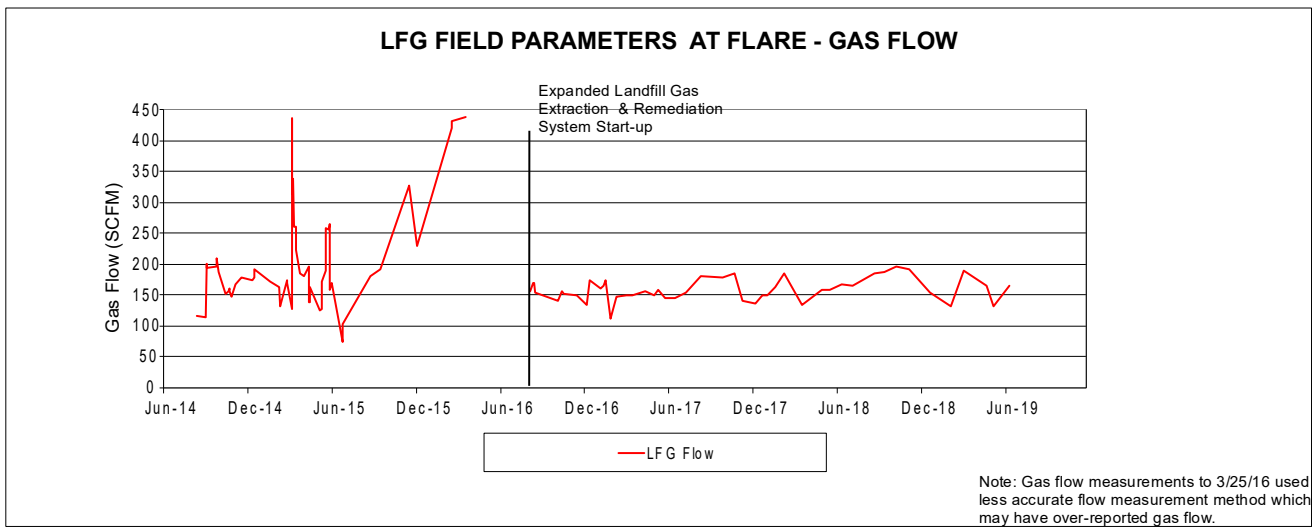




114-710326D
11/21/2019

**VOC Concentration In Wells LF-3 and MW-20
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 13**

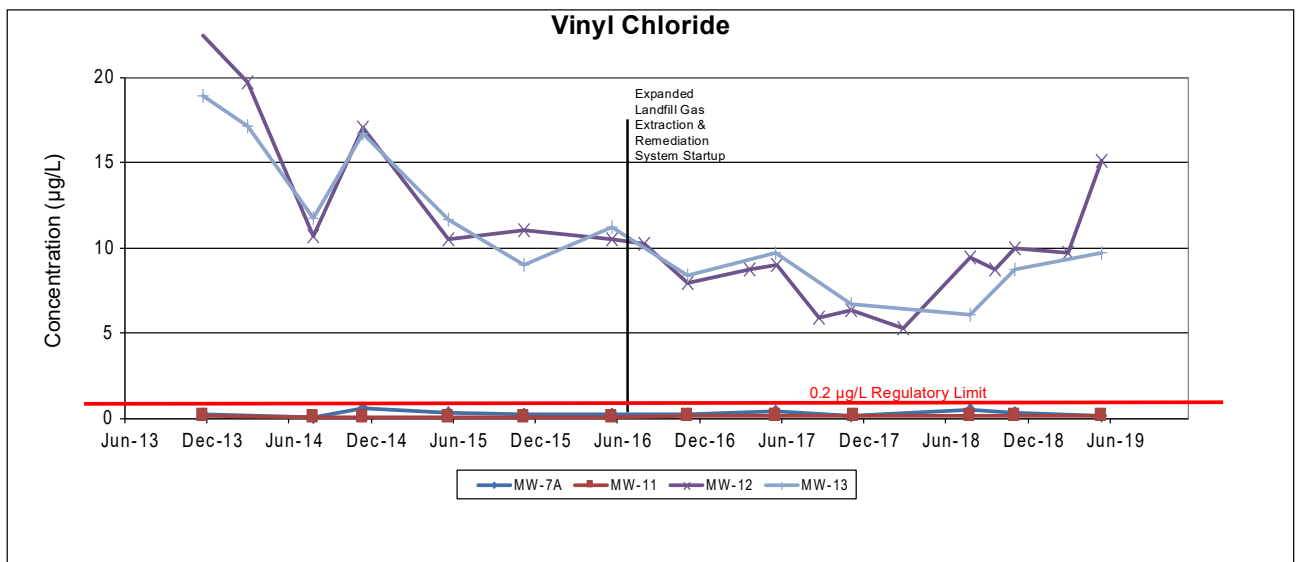
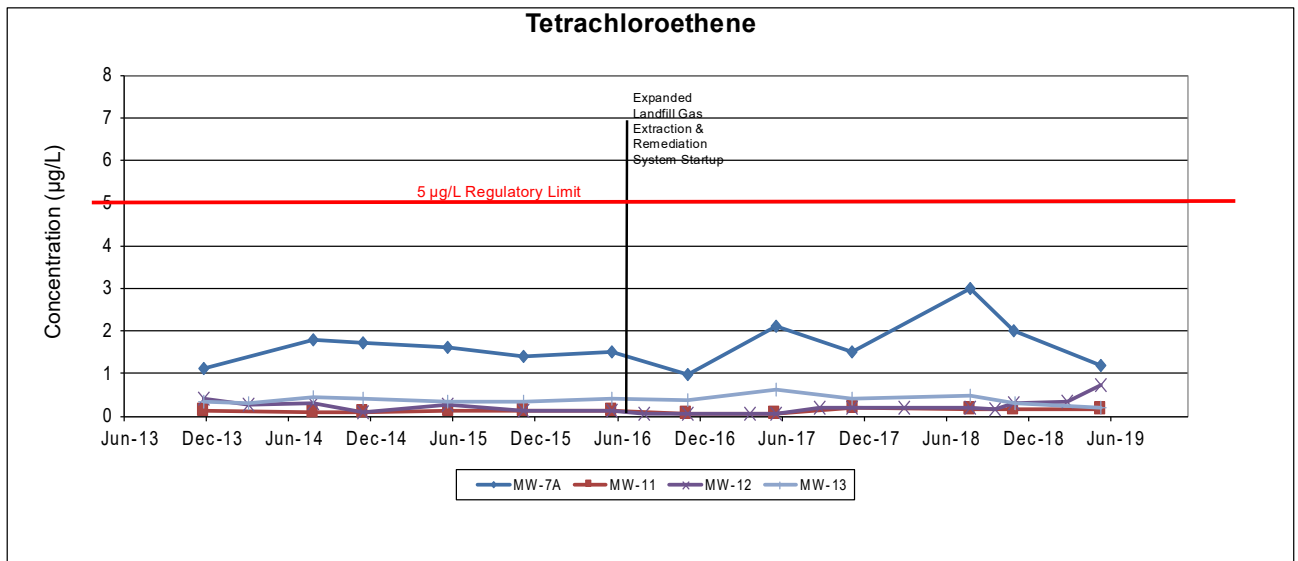
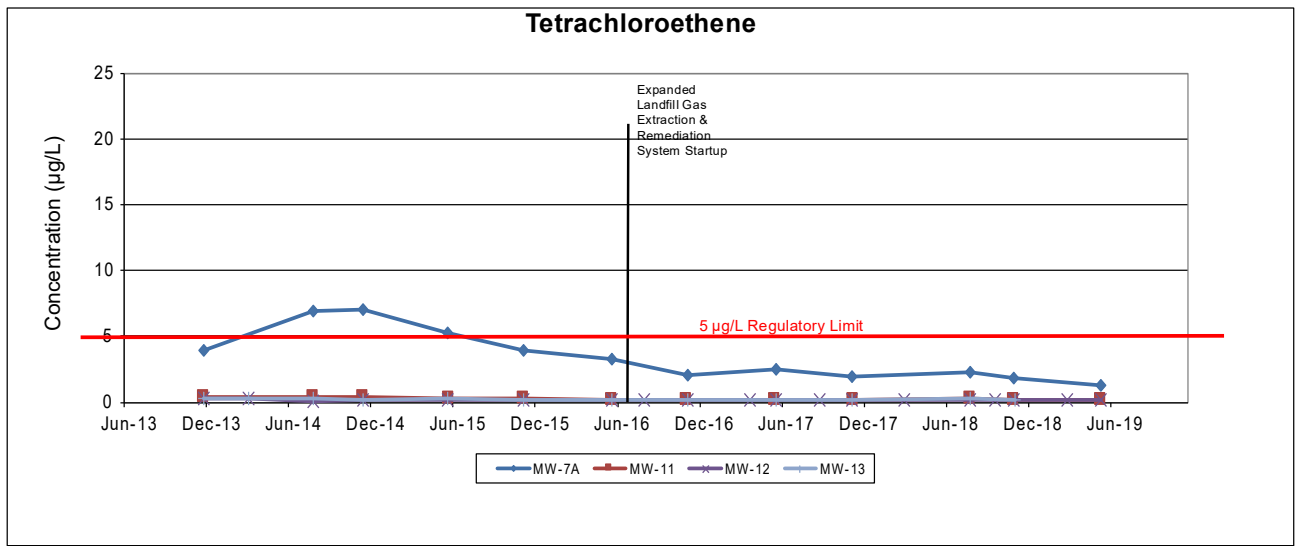




114-710326D
11/11/2019

Note:
After September 2015, LFG flow was increased in an effort to maintain flare operation.
No data collected after 3/25/16 due to construction of new system.

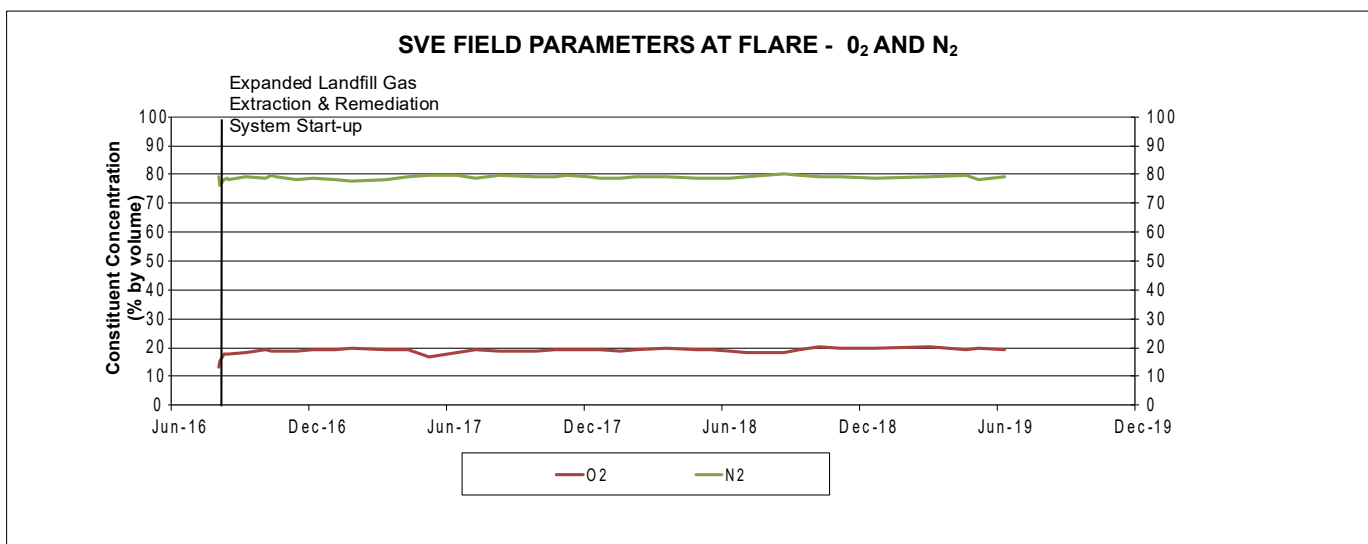
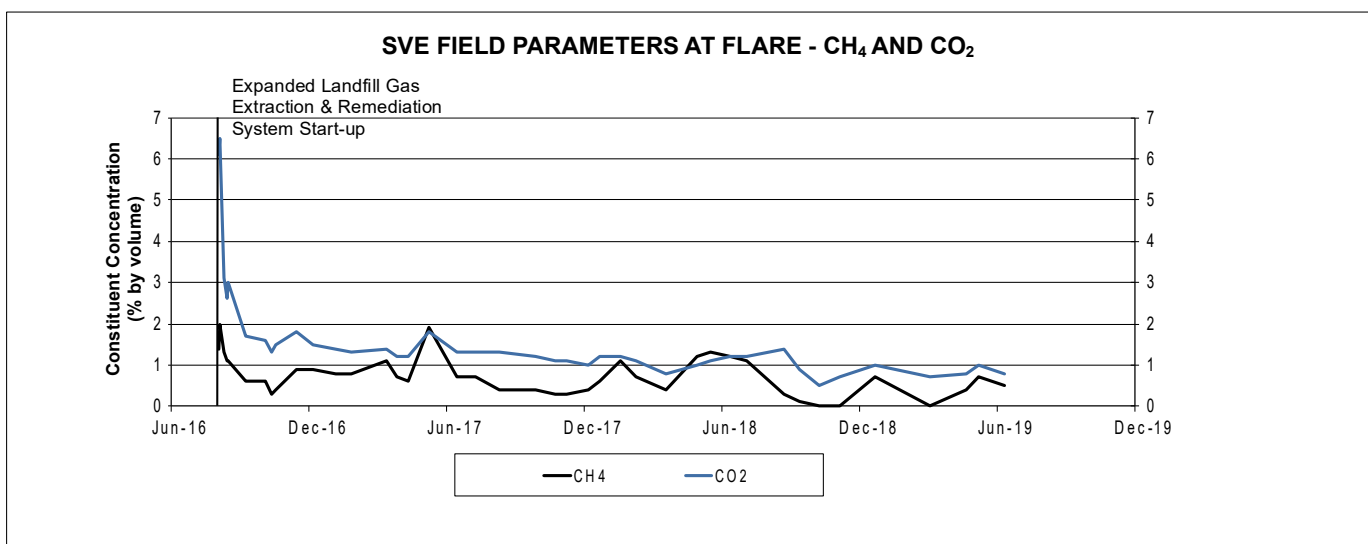
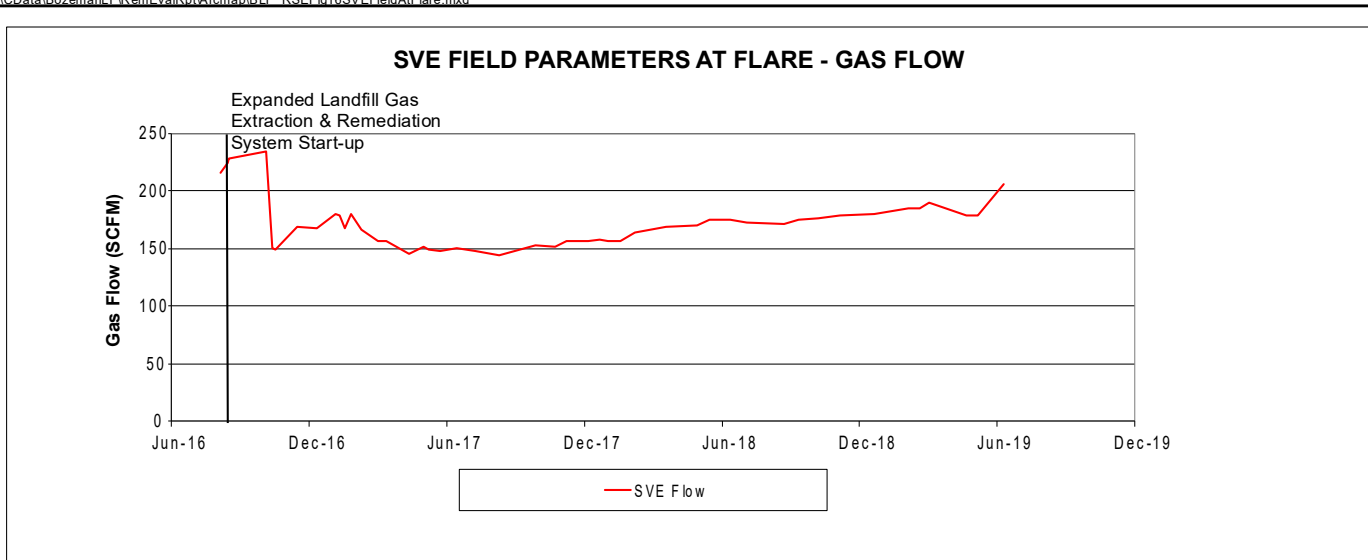




114-710326D
11/21/2019

**VOC Concentrations Downgradient of LFGES
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 15**

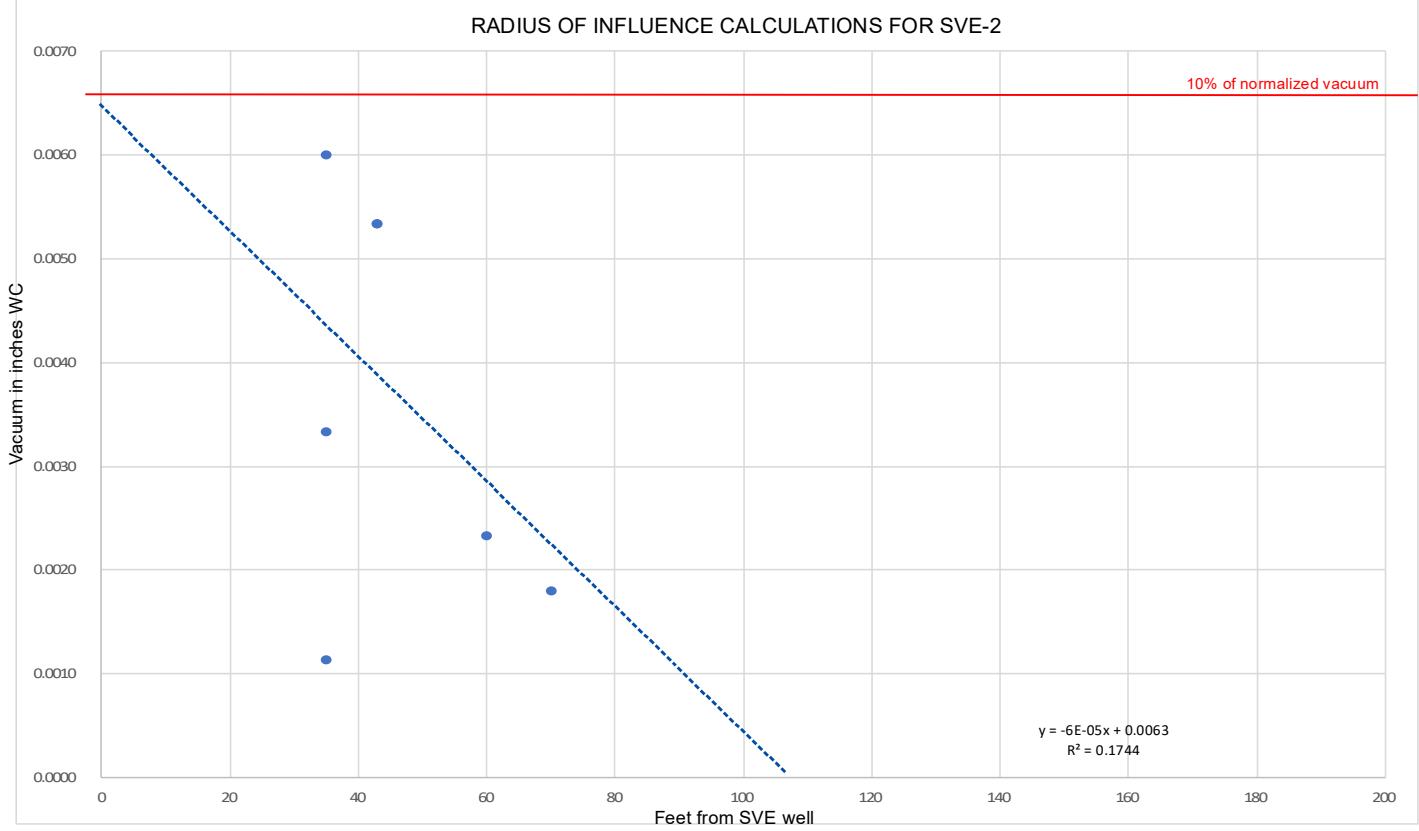
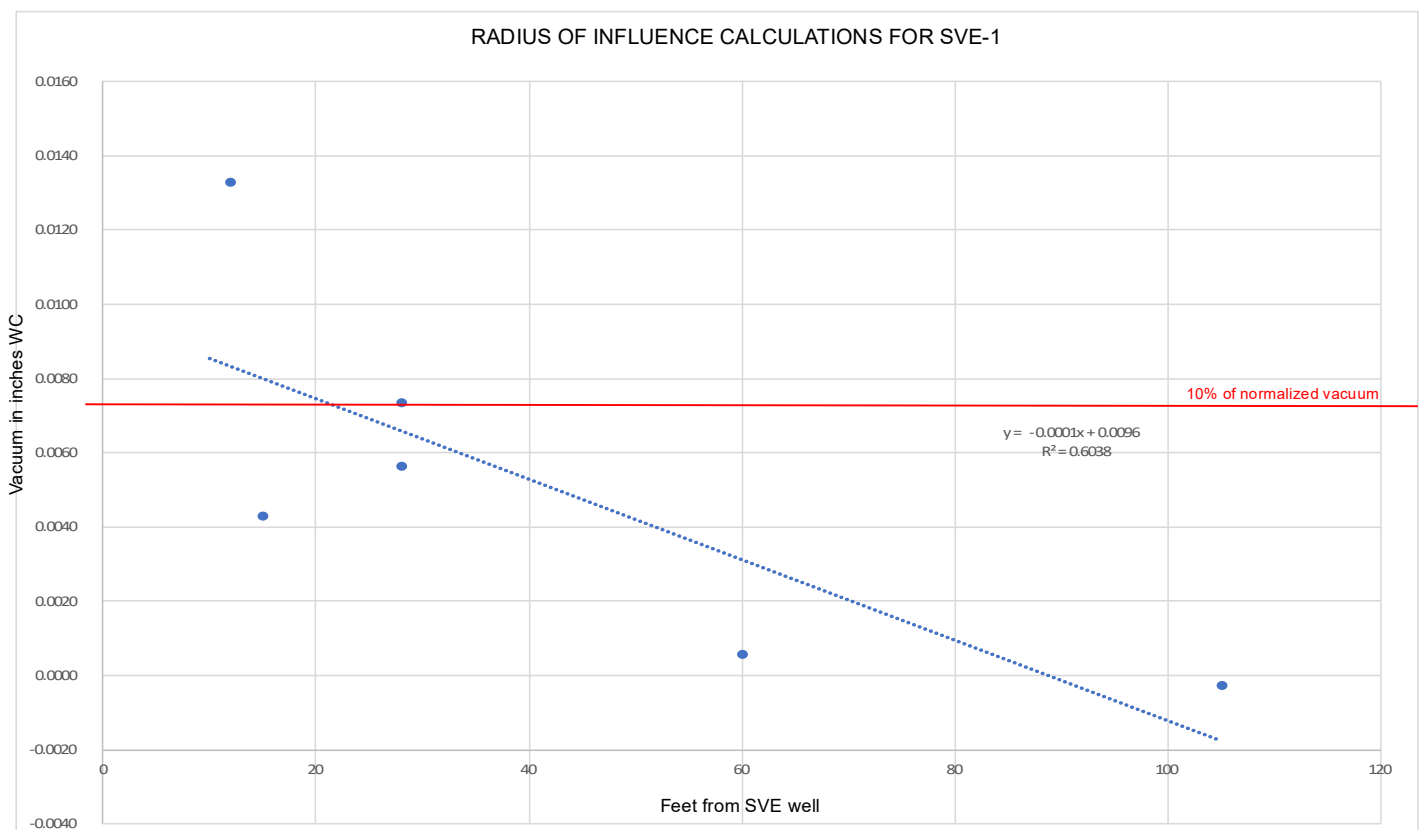




114-710326D
11/21/2019

**Soil Vapor Extraction Field Parameters at Flare
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 16**

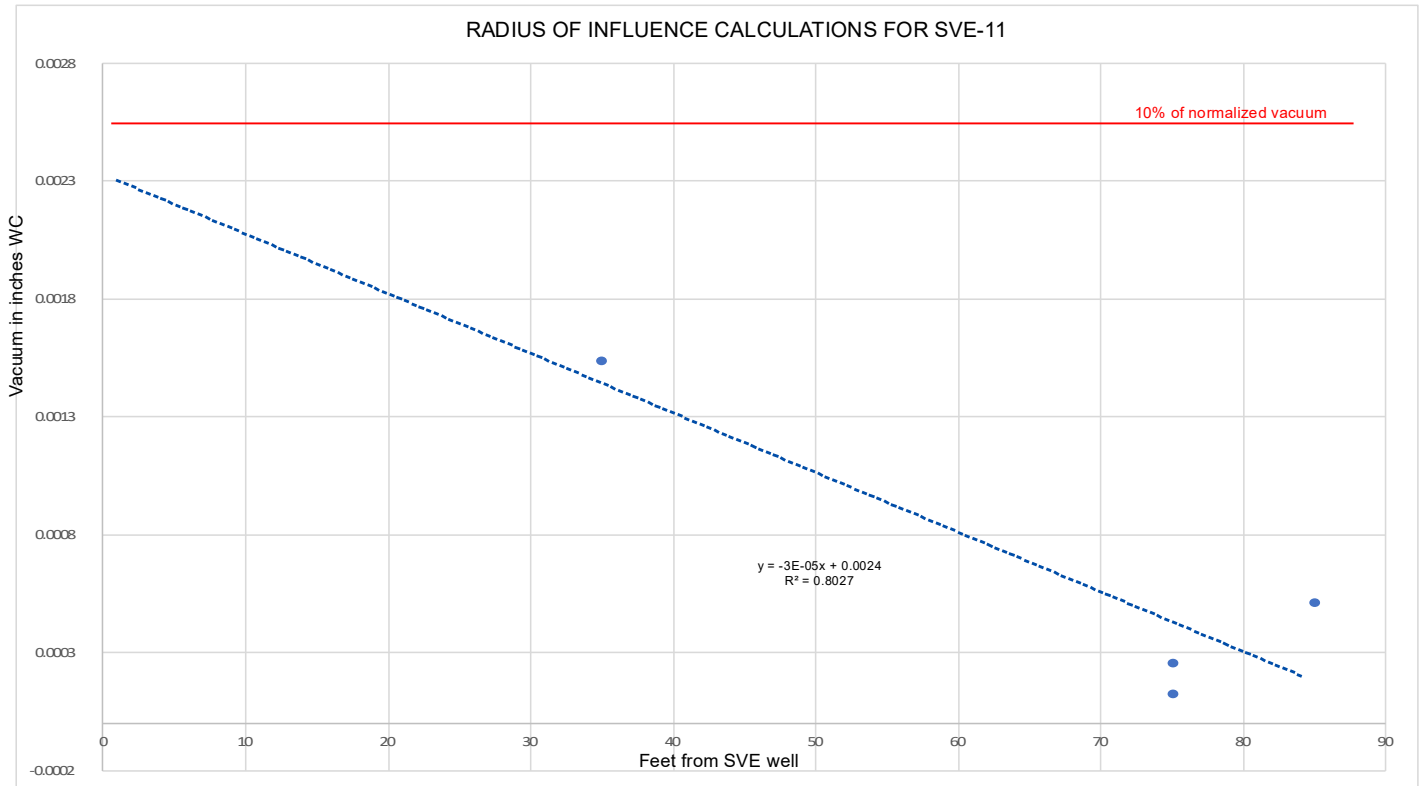
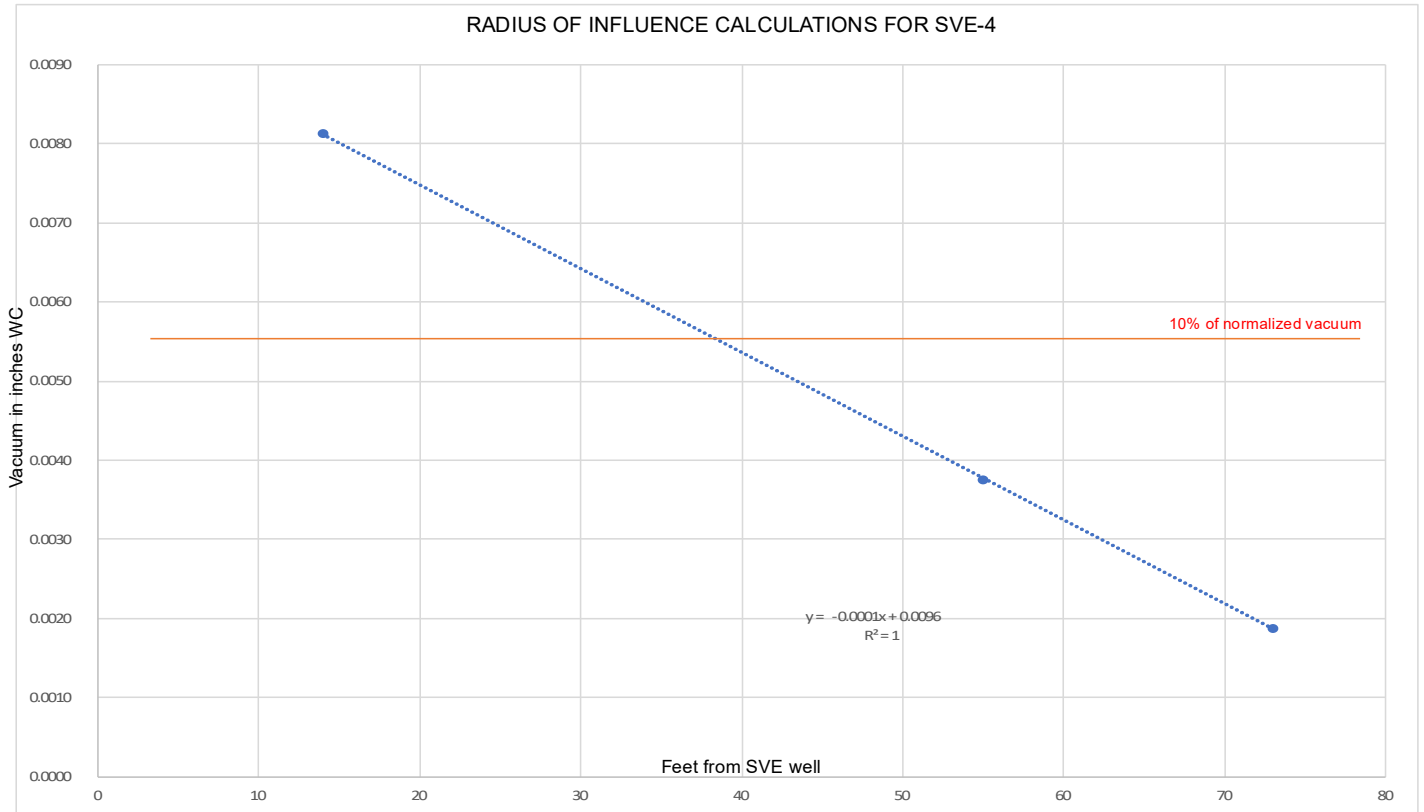




114-710326D
11/21/2019

**Normalized SVE Radius Of Influence
for SVE-1 and SVE-2
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 17**

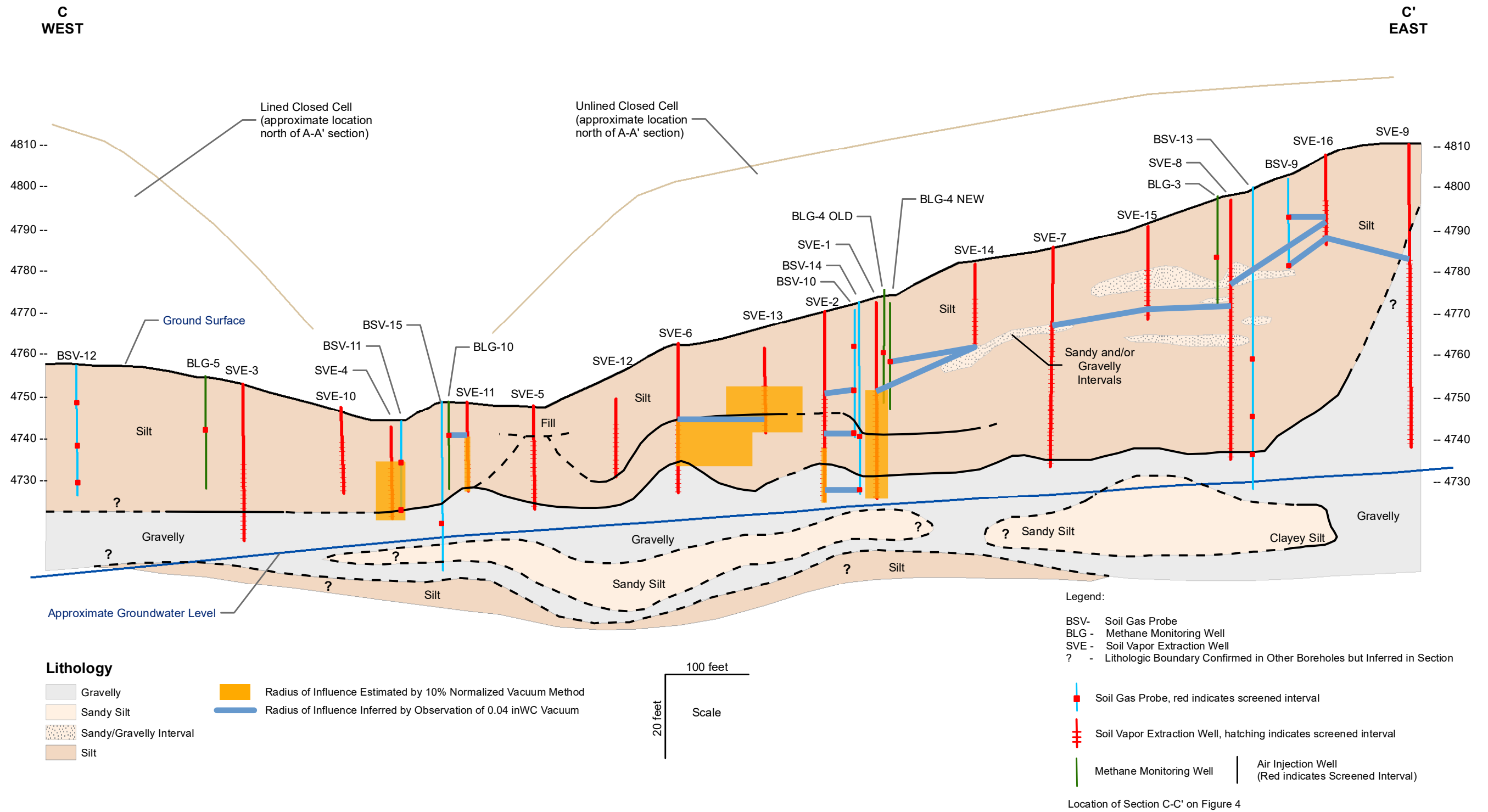




114-710326D
11/21/2019



**Normalized SVE Radius Of Influence
for SVE-4 and SVE-11
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
FIGURE 18**



114-710326D
11/21/2019



**Radius of Influence Results and Lithology
Remediation System Evaluation
Bozeman Landfill
Bozeman, Montana
Figure 19**

TABLES

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
LF-2	12/6/2010	U 1	U 1	U 1	U 1	U 1	1.3	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	1.1	U 0.05	U 0.049
	12/5/2011	U 0.05	0.27	U 5	U 0.072	U 0.13	1.4	J 0.23	U 0.16
	6/4/2012	J 0.12	J 0.25	U 2	U 0.072	U 0.13	1.9	J 0.31	U 0.16
	12/6/2012	U 0.05	J 0.15	U 2	U 0.072	U 0.13	1.1	J 0.14	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	0.86	J 0.12	U 0.2
	12/18/2013	U 0.24	J 0.29	U 2	U 0.25	U 0.5	0.83	J 0.15	U 0.1
	3/27/2014	U 0.24	J 0.37	U 2	U 0.25	U 0.5	0.89	J 0.16	U 0.1
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	1.2	J 0.13	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	0.98	J 0.31	U 0.082
	6/15/2015	U 0.21	J 0.36	U 0.56	U 0.22	U 0.64	0.67	J 0.23	U 0.081
	12/1/2015	U 0.21	J 0.37	U 0.56	U 0.22	U 0.64	0.75	J 0.19	U 0.081
	6/15/2016	U 0.21	J 0.48	U 0.56	U 0.22	U 0.64	0.72	U 0.14	U 0.081
	8/25/2016	U 0.04	J 0.44	U 0.097	U 0.055	U 0.08	0.84	J 0.12	U 0.084
	11/28/2016	U 0.04	J 0.36	U 0.097	U 0.055	U 0.08	0.65	J 0.14	U 0.098
	4/17/2017	U 0.04	J 0.29	U 0.097	U 0.055	U 0.08	0.62	U 0.044	U 0.098
	6/16/2017	U 0.04	J 0.48	U 0.097	U 0.055	U 0.08	0.76	J 0.094	U 0.098
	9/20/2017	U 0.13	J 0.48	U 1.2	U 0.14	U 1.1	0.73	U 0.18	U 0.096
	11/29/2017	U 0.13	0.55	U 1.2	U 0.14	U 1.1	0.96	U 0.18	U 0.096
	3/27/2018	U 0.13	J 0.36	U 1.2	U 0.14	U 1.1	0.74	U 0.18	U 0.096
	8/20/2018	U 0.1	J 0.4	U 0.98	U 0.17	U 0.16	1.1	U 0.15	U 0.092
	10/16/2018	U 0.1	J 0.42	U 0.98	U 0.17	J 0.52	0.8	U 0.15	U 0.092
	11/27/2018	U 0.1	J 0.42	U 0.98	U 0.17	U 0.16	0.73	U 0.15	U 0.092
	3/27/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	J 0.42	U 0.15	U 0.092
	6/12/2019	U 0.1	J 0.27	U 0.98	U 0.17	U 0.16	0.65	U 0.15	U 0.092
LF-3	1/18/1994	U 2	U 1	U 5	U 1	U 1	5	1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	2/1/1995	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	3	1	U 1
	11/28/1995	U 1	U 1	U 5	U 1	U 1	6	2	U 1
	6/25/1996	U 1	1	U 5	U 1	U 1	6	2	U 1
	12/11/1996	U 1	U* 1	U 5	U 1	U 1	5	2	U 1
	6/19/1997	U 1	1	U 1	U 1	U 2	6	2	U 2
	12/15/1997	U 1	1	U 5	U 1	U 1	2	6	U 1
	3/24/1998	U 1	1	U 5	U 1	U 1	7	2	U 1
	6/29/1998	U 1	U 1	<(2) 5	(2) U 1	< (2) 1	6	3	U 1
	9/29/1998	U 1	1	11	U 1	U 1	7	3	U 1
	12/14/1998	U 1	1	U(1)B 5	U 1	(1) U 1	6	6	U 1
	3/15/1999	U 1	(1) U 1	(1) U 5	U 1	U 1	6	2	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	4	1	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
LF-3	9/13/1999	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	U 1
	12/13/1999	U 1	(1) U 1	(1) U 5	U 1	U 1	5	2	U 1
	3/22/2000	U 1	(1) U 1	U 5	U 1	U 1	5	2	U 1
	6/7/2000	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	U 1
	9/22/2000	U 1	U 1	(1) U 5	U 1	U 1	4	1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	4	1	U 1
	3/22/2001	U 1	1	U 5	U 1	U 1	5	1	U 1
	6/11/2001	U 1	1	U 5	U 1	U 1	5	2	U 1
	9/19/2001	U 1	1	U(1,3) 5	U 1	1	5	3	U 1
	12/17/2001	U 1	1	(1) U 5	(1) U 1	U 1	6	2	U 1
	3/25/2002	U 1	1	U 5	U 1	2	6	1	U 1
	6/13/2002	U 1	1	(1) U 5	(1) U 1	U 1	5	1	U 1
	9/24/2002	U 1	1	UJR 5	U 1	U 1	5	1	U 1
	12/12/2002	U 1	1	(1) U 5	U 1	U 1	6	1	U 1
	3/24/2003	U 1	1	(1) U 5	(1) U 1	(1) U 1	5	1	U 1
	6/9/2003	U 1	1	(1) U 5	U 1	(1) U 1	5	1	U 1
	9/25/2003	U 1	1	(1) U 5	(1) U 1	U 1	5	1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	U 1	U 1	4	1	JJF% 1
	3/25/2004	U 1	1	U 5	U 1	U 1	4	(1) U 1	U 1
	6/9/2004	U 1	1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	9/9/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	4	(1) U 1	U 1
	3/29/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	3	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	U 5	U 1	U 1	3	(1) U 1	U 1
	9/20/2005	U 1	(1) U 1	(1) BU 5	U 1	U 1	3	U 1	U 1
	12/13/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	3	(1) U 1	U 1
	3/16/2006	U 1	(1) U 1	U 5	U 1	U 1	3	(1) U 1	U 1
	6/12/2006	U 0.5	0.8	(1) U 5	(1) U 1	U 1	2.7	0.5	U 0.5
	9/20/2006	U 0.5	0.6	U(1) 5	U(1) 1	U 1	2.3	U(1) 0.5	U 0.5
	12/5/2006	U 0.5	0.7	U 5	U 1	U 1	2.7	U(1) 0.5	U 0.5
	3/13/2007	U 0.5	0.8	U 5	U(1) 1	U 1	2.7	0.6	U 0.5
	6/21/2007	U 0.5	0.9	U 5	U 1	U 1	2.6	0.6	JJF% 0.5
	12/11/2007	U 0.5	0.8	U 5	U 1	U(1) 1	2.5	0.6	U 0.5
	6/25/2008	U 0.5	1	U(1) 5	U 1	U 1	2.9	0.7	U 0.5
	12/8/2008	U 1	1.6	U 4	U 1	U 1	3.9	1.1	U 0.4
	6/2/2009	U 0.5	1.5	U 2	U 0.5	U 2	4.5	1	U 0.2
	12/10/2009	U 0.5	1.8	UB 2	U 0.5	U 2	4.4	1	U 0.2
	6/16/2010	U 0.5	2.1	30.4	U 0.5	U 0.5	4.4	1.1	U 0.5
	12/6/2010	U 1	1.2	U 1	U 1	U 1	3.9	U 1	U 1
	6/13/2011	U 0.04	1.9	U 2	J 0.11	J 0.11	3.9	0.96	U 0.049

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
LF-3	12/6/2011	U 0.05	1.8	U 5	U 0.072	U 0.13	3.8	0.9	U 0.16
	6/4/2012	J 0.05	1.9	U 2	J 0.086	U 0.13	4.1	0.94	U 0.16
	12/6/2012	U 0.05	1.8	U 2	J 0.14	U 0.13	3.8	0.88	U 0.16
	6/12/2013	U 0.24	2.3	U 2	U 0.25	U 0.5	4.2	1	U 0.2
	12/18/2013	U 0.24	2.2	U 2	U 0.25	U 0.5	3.4	0.78	U 0.1
	3/26/2014	U 0.24	2	U 2	U 0.25	U 0.5	2.4	0.61	U 0.1
	8/20/2014	U 0.07	2.4	U 2	U 0.077	U 0.34	5.5	1.1	U 0.082
	12/10/2014	U 0.07	3.4	U 2	U 0.087	U 0.34	4.2	0.94	U 0.082
	6/15/2015	U 0.21	2.1	U 0.56	U 0.22	U 0.64	3.9	0.82	U 0.081
	12/1/2015	U 0.21	2.4	U 0.56	U 0.22	U 0.64	3.8	0.94	U 0.081
	6/15/2016	U 0.21	2.7	U 0.56	U 0.22	U 0.64	3.6	0.76	U 0.081
	8/25/2016	U 0.04	2.9	U 0.097	U 0.055	U 0.08	4.1	0.94	U 0.084
	11/28/2016	U 0.04	2.5	U 0.097	U 0.055	U 0.08	3.9	0.71	U 0.098
	4/17/2017	U 0.04	2.7	U 0.097	U 0.055	U 0.08	3.3	0.88	U 0.098
	6/15/2017	U 0.04	2.4	U 0.097	U 0.055	U 0.08	2.9	0.88	U 0.098
	9/20/2017	U 0.13	2.3	U 1.2	U 0.14	U 1.1	3.4	0.82	U 0.096
	11/29/2017	U 0.13	2.3	U 1.2	U 0.14	U 1.1	3.4	0.7	U 0.096
	3/27/2018	U 0.13	2	U 1.2	U 0.14	U 1.1	3.4	0.88	U 0.096
	8/20/2018	U 0.1	2.3	U 0.98	U 0.17	U 0.16	3.5	0.93	U 0.092
	10/16/2018	U 0.1	2.1	U 0.98	U 0.17	J 0.71	2.9	0.82	U 0.092
	11/27/2018	U 0.1	1.7	U 0.98	U 0.17	U 0.16	3	0.7	U 0.092
	3/27/2019	39.9	1.3	U 0.98	U 0.17	U 0.16	1.8	0.45	U 0.092
	6/12/2019	U 0.1	1.5	U 0.98	U 0.17	U 0.16	2.4	0.58	U 0.092
MW-4	1/18/1994	U 2	U 1	U 5	2	U 1	4	2	U 1
	6/27/1994	U 1	U 1	U* 5	2	U 1	4	2	U 1
	1/31/1995	U 1	U 1	U* 5	1	U 1	3	2	U 1
	6/27/1995	U 1	U 1	JX 1	1	U 1	2	1	U 1
	11/28/1995	U 1	U 1	U* 5	1	U 1	3	1	U 1
	6/25/1996	U 1	U 1	U 5	1	U 1	3	2	U 1
	12/11/1996	U 1	U* 1	U 5	U 1	U 1	2	1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	2	U 1	U 2
	12/15/1997	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/29/1998	U 1	<(2) 1	<(5) 5	(1) U 1	< (2) 1	2	1	U 1
	12/14/1998	U 1	(1) U 1	U(1)B 5	(1) U 1	(1) U 1	2	2	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	1	U 1
	12/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	2	1	U 1
	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	1	1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	2	1	U 1
	12/17/2001	U 1	1	(1) U 5	(1) U 1	U 1	1	1	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-4	6/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	12/11/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/9/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	JJF% 1
	6/9/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/12/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	0.5	(1) U 0.5	U 0.5
	12/5/2006	U 0.5	U(1) 0.5	U 5	U 1	U 1	U(1) 0.5	U(1) 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.6	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U(1) 0.5	U 5	U 1	U 1	0.5	U(1) 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.5	U(1) 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	J 0.98	J 0.54	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.83	J 0.56	U 0.2
	6/15/2010	U 0.5	0.51	27.6	U 0.5	U 0.5	0.85	0.66	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	U 0.04	J 0.49	U 2	J 0.24	J 0.097	0.78	0.66	U 0.049
	12/7/2011	U 0.05	J 0.4	U 5	J 0.25	U 0.13	0.87	0.64	U 0.16
	6/4/2012	J 0.51	J 0.48	U 2	J 0.25	U 0.13	1.2	0.86	U 0.16
	12/4/2012	U 0.05	J 0.45	U 2	J 0.29	U 0.13	1.1	0.79	U 0.16
	6/10/2013	U 0.24	J 0.5	U 2	J 0.42	U 0.5	1.1	0.97	U 0.2
	12/16/2013	U 0.24	J 0.47	U 2	J 0.45	U 0.5	1	0.77	U 0.1
	3/26/2014	U 0.24	0.53	U 2	J 0.45	U 0.5	1	0.86	U 0.1
	8/20/2014	U 0.07	J 0.4	U 2	U 0.077	U 0.34	1.6	0.89	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.2	1	U 0.082
	6/16/2015	U 0.21	U 0.25	U 0.56	J 0.45	U 0.64	1.2	0.78	U 0.081
	11/30/2015	U 0.21	J 0.48	U 0.56	U 0.22	U 0.64	1.1	0.73	U 0.081
	6/14/2016	U 0.21	J 0.43	U 0.56	J 0.28	U 0.64	1	0.74	U 0.081
	11/29/2016	U 0.04	J 0.45	U 0.097	U 0.055	U 0.08	0.88	0.65	U 0.098
	6/14/2017	U 0.04	0.55	U 0.097	U 0.055	U 0.08	0.79	0.64	U 0.098
	11/30/2017	U 0.13	0.59	U 1.2	U 0.14	U 1.1	1	0.57	U 0.096
	8/20/2018	U 0.1	0.58	U 0.98	J 0.37	J 0.41	1	0.59	U 0.092
	11/29/2018	U 0.1	0.54	U 0.98	J 0.31	U 0.16	0.81	0.49	U 0.092
	6/12/2019	U 0.1	0.59	U 0.98	U 0.17	U 0.16	0.79	0.43	U 0.092
MW-5	1/17/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/31/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-5	11/27/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/25/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/11/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/15/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/29/1998	U 1	U 1	U 5	U 1	1	U 1	U 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/17/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/13/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/11/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/9/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/9/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/5/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/3/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/14/2010	U 0.5	U 0.5	38.3	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	J 0.07	U 0.08	U 2	U 0.072	J 0.057	U 0.041	U 0.05	U 0.049
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	J 0.07	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	2.1	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	8/21/2014	6.2	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/9/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	6/16/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-5	11/30/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/14/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/29/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/15/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	11/30/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	8/20/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
	11/28/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
	6/10/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-6	8/3/1993	U 1	2.3	U 1	1.7	U 1	U 1	5.1	3.7
	1/18/1994	U 2	2	U 5	U 1	U 1	1	5	6
	6/28/1994	U 1	3	U 5	3	U 1	1	6	8
	2/1/1995	U* 1	3	U 5	3	U 1	1	5	12
	6/27/1995	U 1	2	U 1	U 1	U 1	U 1	3	9
	11/28/1995	U 1	1	U 5	2	U 1	1	3	6
	6/25/1996	U 1	U* 1	U 5	2	1	1	2	11
	12/11/1996	U 1	U 1	U 5	2	U 1	U* 1	2	11
	6/19/1997	U 1	U 1	U 1	U 1	U 2	1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	2	U 1	2	U 1	14
	3/23/1998	U 1	U 1	U 5	2	U 1	U 1	2	13
	6/29/1998	U 1	<(2) 1	U 5	1	U 1	<(2) 1	1	15
	9/29/1998	U 1	U 1	U 5	1	U 1	U 1	1	9
	3/15/1999	U 1	U 1	(1) U 5	(1) U 1		(1) U 1	1	9
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	9
	9/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	U 1	9
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	10
	3/22/2000	U 1	U 1	U 5	(1) U 1	U 1	U 1	(1) U 1	4
	6/7/2000	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	U 1	3
	9/22/2000	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	3
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	3
	3/21/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	9/19/2001	U 1	(1) U 1	U(1,3) 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	1	U 1
	3/25/2002	U 1	1	U 5	U 1	U 1	U 1	2	U 1
	6/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	9/24/2002	U 1	1	UJR 5	U 1	U 1	U 1	1	U 1
	12/12/2002	U 1	2	(1) U 5	1	U 1	(1) U 1	2	(1) U 1
	3/24/2003	U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	(1) U 1	1	U 1
	6/9/2003	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	9/25/2003	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-6	12/4/2003	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	JJF% 1
	3/24/2004	U 1	2	U 5	1	U 1	(1) U 1	2	U 1
	6/8/2004	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	9/9/2004	U 1	1	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	12/7/2004	U 1	2	(1) U 5	(1) U 1	U 1	(1) U 1	2	U 1
	3/29/2005	U 1	2	(1) U 5	1	U 1	(1) U 1	2	U 1
	6/16/2005	U 1	1	U 5	1	U 1	2	2	U 1
	9/20/2005	U 1	2	(1) BU 5	(1) U 1	U 1	(1) U 1	3	U 1
	12/14/2005	U 1	1	(1) U 5	1	U 1	2	2	U 1
	3/16/2006	U 1	(1) U 1	U 5	(1) U 1	U 1	2	1	U 1
	6/13/2006	U 0.5	0.8	(1) U 5	1.1	U 1	2.5	1.1	U 0.5
	9/21/2006	U 0.5	1.8	U(1) 5	U(1) 1	U 1	0.9	2.2	U(1) 0.5
	12/6/2006	U 0.5	1.5	U 5	1	U 1	1.8	1.6	U 0.5
	3/15/2007	U 0.5	1	U 5	1	U 1	1.4	1	U 0.5
	6/20/2007	U 0.5	0.8	U 5	U 1	U 1	1.1	1	JJF% 0.5
	12/10/2007	U 0.5	1.8	U 5	1.1	U(1) 1	1.3	1.9	U 0.5
	6/24/2008	U 0.5	0.8	U(1) 5	U 1	U 1	0.9	0.8	U 0.5
	12/9/2008	U 1	1.8	U 4	1.4	U 1	1.7	2.2	U 0.4
	6/2/2009	U 0.5	1.4	U 2	1.1	U 2	J 0.88	1.3	U 0.2
	12/9/2009	U 0.5	1.8	UB 2	1.3	U 2	1.7	1.8	2.1
	6/15/2010	U 0.5	1.5	19.1	1.1	U 0.5	1.3	1.4	2.4
	12/7/2010	U 1	2.2	U 1	1.1	U 1	1	1.5	5.3
	6/13/2011	J 0.31	1.3	U 2	0.94	U 0.021	0.78	0.96	5.2
	12/5/2011	U 0.05	1	U 5	0.89	U 0.13	1.5	0.88	1.2
	6/5/2012	J 0.21	2.5	U 2	1.1	U 0.13	0.93	1.1	1.8
	12/4/2012	J 0.12	2.1	U 2	0.95	U 0.13	0.97	0.79	1.5
	6/10/2013	U 0.24	2.3	U 2	1.2	U 0.5	0.8	0.82	0.65
	12/16/2013	U 0.24	2.9	U 2	1.3	U 0.5	0.64	0.66	1.2
	8/20/2014	J 0.15	2	U 2	1	U 0.34	0.69	0.63	0.74
	12/9/2014	U 0.07	1.9	U 2	1.3	U 0.34	1	0.77	0.82
	6/17/2015	U 0.21	1.1	U 0.56	0.91	U 0.64	0.79	0.51	0.58
	12/2/2015	U 0.21	2.1	U 0.56	0.82	U 0.64	0.57	0.5	0.9
	6/15/2016	U 0.21	2.1	U 0.56	1.1	U 0.64	0.53	J 0.32	0.23
	11/29/2016	J 0.05	2.3	U 0.097	1.1	U 0.08	0.59	0.44	0.4
	6/14/2017	U 0.04	1.8	U 0.097	1.2	U 0.08	0.6	0.44	0.21
	12/1/2017	U 0.13	2.1	U 1.2	0.98	U 1.1	0.82	0.42	0.49
	8/20/2018	J 0.14	1.6	U 0.98	0.94	J 0.2	0.7	0.45	0.74
	11/29/2018	J 0.21	1.6	U 0.98	0.83	U 0.16	J 0.48	J 0.37	2.1
	6/13/2019	J 0.18	1.8	U 0.98	0.81	U 0.16	J 0.41	J 0.27	1.5
MW-6B	6/5/2012	U 0.05	U 0.08	U 2	U 0.5	U 0.13	U 0.16	U 0.11	U 0.16

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

J - Estimated Concentration

(1) - No HHS established

-- - Not collected/analyzed

U - Below Method Detection Limit

*(1) X F% - Additional QA/QC notes

- Value greater than the HHS

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-6B	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	6/17/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/14/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/13/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-7A	1/18/1994	U 2	U 1	12	6	U 1	27	4	U 1
	6/28/1994	U* 1	U 1	18	7	U 1	32	5	U 1
	2/1/1995	U 1	U 1	14	6	U 1	24	4	1
	6/27/1995	2	U 1	JX 17	6	U 1	13	5	U 1
	11/27/1995	U* 1	U 1	10	4	U 1	17	4	1
	6/25/1996	2	U* 1	15	5	U 1	16	6	4
	12/11/1996	U* 1	U 1	10	3	U 1	10	4	2
	6/20/1997	2	U 1	15	4	U 2	13	5	7
	12/16/1997	2	1	JX 18	5	U 1	5	13	5
	3/23/1998	2	U 1	14	4	U 1	11	4	4
	6/30/1998	2	1	15	4	U 1	11	4	6
	9/29/1998	2	1	19	4	U 1	11	4	3
	12/14/1998	2	1	B 21	5	U 1	11	11	4
	3/15/1999	2	(1) U 1	14	4		10	3	3
	6/22/1999	2	U 1	(1) U 5	4	U (1) 5	6	3	4
	9/13/1999	2	(1) U 1	(1) U 5	3	U 1	8	3	3
	12/14/1999	1	U 1	(1) U 5	3	U 1	7	2	2
	3/22/2000	1	U 1	U 5	3	U 1	9	3	2
	6/7/2000	(1) U 1	(1) U 1	(1) U 5	3	U 1	7	U 1	3
	9/22/2000	(1) U 1	U 1	(1) U 5	3	U 1	7	2	3
	11/28/2000	U 1	U 1	U 5	3	U 1	7	2	3
	3/21/2001	U 1	U 1	U 5	4	U 1	11	3	2
	6/11/2001	1	U 1	U 5	4	U 1	12	3	3
	9/19/2001	(1) U 1	U 1	U(1,3) 5	3	U 1	8	2	(1) U 1
	12/17/2001	(1) U 1	(1) U 1	(1) U 5	5	U 1	11	3	2
	3/25/2002	U 1	U 1	U 5	3	U 1	9	2	1
	6/13/2002	(1) U 1	(1) U 1	(1) U 5	5	U 1	10	3	2
	9/24/2002	U 1	U 1	UJR 5	3	U 1	8	2	1
	12/12/2002	(1) U 1	(1) U 1	(1) U 5	5	U 1	12	3	1
	3/24/2003	(1) U 1	(1) U 1	(1) U 5	3	(1) U 1	9	2	(1) U 1
	6/10/2003	(1) U 1	(1) U 1	(1) U 5	3	U 1	9	2	(1) U 1
	9/25/2003	(1) U 1	(1) U 1	(1) U 5	3	U 1	8	2	(1) U 1
	12/4/2003	(1) U 1	(1) U 1	(1) U 5	4	U 1	7	2	JF% 1
	3/24/2004	U 1	U 1	(1) U 5	2	U 1	4	(1) U 1	(1) U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-7A	6/8/2004	U 1	U 1	(1) U 5	2	U 1	6	1	(1) U 1
	9/9/2004	(1) U 1	U 1	(1) U 5	1	U 1	5	(1) U 1	(1) U 1
	12/7/2004	U 1	U 1	(1) U 5	2	U 1	6	1	(1) U 1
	3/29/2005	U 1	U 1	(1) U 5	1	U 1	3	(1) U 1	(1) U 1
	6/17/2005	U 1	U 1	U 5	2	U 1	6	1	U 1
	9/20/2005	U 1	U 1	(1) BU 5	1	U 1	3	(1) U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	1	U 1	4	(1) U 1	(1) U 1
	3/16/2006	U 1	U 1	U 5	(1) U 1	U 1	2	(1) U 1	(1) U 1
	6/13/2006	(1) U 0.5	U 0.5	(1) U 5	1.6	U 1	4.2	0.7	(1) U 0.5
	9/21/2006	U(1) 0.5	U 0.5	U(1) 5	U(1) 1	U 1	2.7	U(1) 0.5	U(1) 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U(1) 1	U 1	1.7	U(1) 0.5	U 0.5
	3/15/2007	U 0.5	U 0.5	U 5	1	U 1	2.2	U(1) 0.5	U 0.5
	6/20/2007	0.5	U 0.5	U 5	U 1	U 1	2.3	0.6	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	1.3	U(1) 1	2.4	0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	1.5	U 1	3.5	0.7	U 0.5
	12/10/2008	U 1	U 1	U 4	2.9	U 1	5.5	1.3	0.53
	6/2/2009	U 0.5	U 0.5	U 2	1.6	U 2	4	J 0.81	U 0.2
	12/9/2009	U 0.5	U 0.5	UB 2	3.1	U 2	5.6	1.4	0.57
	6/16/2010	U 0.5	U 0.5	30.2	1.7	U 0.5	3.4	0.83	U 0.5
	12/7/2010	U 1	U 1	U 1	4.3	U 1	8.6	1.9	U 1
	6/14/2011	0.52	J 0.41	U 2	4.6	U 0.021	7.9	2	0.7
	12/6/2011	0.72	0.67	U 5	5.3	U 0.13	8.3	2.3	0.88
	6/5/2012	0.91	0.94	U 2	6.5	U 0.13	12	3	1.1
	12/5/2012	0.56	0.7	U 2	4.6	U 0.13	7.7	2	0.71
	6/12/2013	J 0.28	0.54	U 2	3.6	U 0.5	5	1.4	J 0.25
	12/17/2013	U 0.24	J 0.47	U 2	3.3	U 0.5	3.9	1.1	0.22
	8/20/2014	J 0.21	0.71	U 2	2.8	U 0.34	6.9	1.8	U 0.082
	12/9/2014	J 0.37	U 0.11	U 2	4.7	U 0.34	7	1.7	0.56
	6/16/2015	J 0.23	U 0.25	U 0.56	3.8	U 0.64	5.3	1.6	J 0.27
	12/2/2015	U 0.21	0.54	U 0.56	2.5	U 0.64	3.9	1.4	0.22
	6/15/2016	J 0.26	0.57	U 0.56	2.9	U 0.64	3.3	1.5	0.25
	11/30/2016	J 0.1	J 0.3	U 0.097	1.6	U 0.08	2.1	0.98	J 0.18
	6/15/2017	J 0.19	0.71	U 0.097	3.1	U 0.08	2.5	2.1	0.43
	12/1/2017	U 0.13	0.5	U 1.2	1.8	U 1.1	1.9	1.5	J 0.17
	8/23/2018	J 0.36	0.94	U 0.98	2.9	U 0.16	2.3	3	0.5
	11/28/2018	J 0.18	0.66	U 0.98	2	U 0.16	1.8	2	0.29
	6/10/2019	U 0.1	J 0.3	U 0.98	1.5	U 0.16	1.3	1.2	J 0.1
MW-7B	8/3/1993	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	1/18/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-7B	2/1/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/16/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/15/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/10/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-8A	1/19/1994	U 2	U 1	U 5	U 1	U 1	5	1	U 1
	6/28/1994	U 1	1	U 5	U 1	U 1	4	3	U 1
	2/1/1995	U 1	1	U 5	1	U 1	4	3	U 1
	6/27/1995	U 1	1	U 1	1	U 1	2	3	U 1
	11/28/1995	U 1	1	U* 5	2	U 1	3	3	U 1
	6/25/1996	U 1	2	U 5	2	U 1	3	3	U 1
	12/12/1996	U 1	1	U 5	1	U 1	2	3	U 1
	6/19/1997	U 1	1	U 1	1	U 2	2	2	U 2
	12/16/1997	U 1	3	U 5	1	U 1	3	3	U 1
	6/30/1998	U 1	4	<(2) 5	2	U 1	4	5	U 1
	12/15/1998	U 1	5	U(1)B 5	1	(1) U 1	4	4	U 1
	6/22/1999	U 1	3	(1) U 5	U 1	U 1	2	3	U 1
	12/14/1999	U 1	3	(1) U 5	(1) U 1	U 1	2	3	U 1
	6/8/2000	U 1	2	(1) U 5	(1) U 1	U 1	2	3	U 1
	11/29/2000	U 1	2	U 5	U 1	U 1	2	2	U 1
	6/12/2001	U 1	1	U 5	U 1	U 1	2	2	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	1	U 1
	12/13/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/7/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/13/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	0.7	(1) U 0.5	U 0.5
	12/6/2006	U 0.5	U 0.5	U 5	U(1) 1	U(1) 1	0.7	U(1) 0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.8	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	0.6	U 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U(1) 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	J 0.86	U 0.5	U 0.2
	12/9/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.85	U 0.5	U 0.2

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-8A	6/15/2010	U 0.5	U 0.5	20	U 0.5	U 0.5	0.81	U 0.5	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	1.3	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	0.64	J 0.28	U 0.049
	12/5/2011	U 0.05	J 0.42	U 5	U 0.072	U 0.13	0.6	J 0.3	U 0.16
	6/5/2012	U 0.05	J 0.46	U 2	U 0.072	U 0.13	0.8	J 0.35	U 0.16
	12/4/2012	U 0.05	0.62	U 2	U 0.072	U 0.13	0.65	J 0.28	U 0.16
	6/12/2013	U 0.24	0.77	U 2	U 0.25	U 0.5	0.68	J 0.33	U 0.2
	12/16/2013	U 0.24	0.96	U 2	U 0.25	U 0.5	0.63	J 0.34	U 0.1
	3/27/2014	U 0.24	0.95	U 2	U 0.25	U 0.5	0.65	J 0.35	U 0.1
	8/20/2014	U 0.07	1.2	U 2	U 0.077	U 0.34	1.3	J 0.36	U 0.082
	12/8/2014	U 0.07	1.4	U 2	U 0.087	U 0.34	0.99	0.58	U 0.082
	6/17/2015	U 0.21	0.65	U 0.56	U 0.22	U 0.64	0.84	J 0.38	U 0.081
	12/2/2015	U 0.21	1.1	U 0.56	U 0.22	U 0.64	0.84	J 0.37	U 0.081
	6/14/2016	U 0.21	1	U 0.56	U 0.22	U 0.64	0.81	J 0.39	U 0.081
	11/29/2016	U 0.04	1.2	U 0.097	U 0.055	U 0.08	0.84	0.41	U 0.098
	6/14/2017	U 0.04	1.3	U 0.097	U 0.055	U 0.08	0.7	J 0.32	U 0.098
	12/1/2017	U 0.13	1.2	U 1.2	U 0.14	U 1.1	0.95	J 0.35	U 0.096
	8/23/2018	U 0.1	0.63	U 0.98	U 0.17	U 0.16	0.7	U 0.15	U 0.092
	11/28/2018	U 0.1	0.59	U 0.98	U 0.17	U 0.16	0.69	J 0.21	U 0.092
	6/12/2019	U 0.1	0.52	U 0.98	U 0.17	U 0.16	0.52	U 0.15	U 0.092
MW-8B	2/1/1995	U 1	2	U 5	1	U 1	4	3	U 1
	12/5/2011	U 0.05	J 0.29	U 5	U 0.072	U 0.13	0.81	J 0.43	U 0.16
	6/5/2012	J 0.06	J 0.23	U 2	U 0.072	U 0.13	0.83	J 0.38	U 0.16
	6/17/2015	U 0.21	J 0.29	U 0.56	U 0.22	U 0.64	0.78	J 0.38	U 0.081
	6/14/2017	U 0.04	1.2	U 0.097	U 0.055	U 0.08	0.72	J 0.33	U 0.098
	6/12/2019	U 0.1	0.95	U 0.98	U 0.17	U 0.16	0.68	J 0.24	U 0.092
MW-8C	6/5/2012	J 0.06	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	6/17/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/14/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/12/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-9A	1/18/1994	U 2	U 1	U 5	2	U 1	4	2	U 1
	6/27/1994	U 1	U 1	U 5	2	U 1	5	2	U 1
	1/31/1995	U 1	U* 1	U 5	1	U 1	4	2	U 1
	6/27/1995	U 1	U 1	U 1	1	U 1	2	U 1	U 1
	11/28/1995	U 1	U 1	U* 5	1	U 1	3	1	U 1
	6/25/1996	U 1	U 1	U 5	U* 1	U 1	2	U* 1	U 1
	12/11/1996	U 1	U 1	U 5	U 1	U 1	2	U* 1	U 1

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-9A	6/19/1997	U 1	U 1	U 1	U 1	U 2	1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/29/1998	U 1	U 1	5	(2) U 1	< (2) 1	1	U(2) 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	(1) U 1	(1) U 1	1	1	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/7/2000	U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	(1) U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	2	U 1	U 1
	6/11/2001	U 1	U 1	U 5	1	U 1	2	1	U 1
	12/17/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	1	U 1
	6/13/2002	U 1	1	(1) U 5	(1) U 1	U 1	2	1	U 1
	12/12/2002	U 1	1	(1) U 5	(1) U 1	U 1	2	1	U 1
	6/9/2003	U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	1	(1) U 1	U 1
	12/4/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	12/7/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/16/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	1	(1) U 1	U 1
	12/14/2005	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	1	(1) U 1	U 1
	6/13/2006	U 0.5	0.5	(1) U 5	(1) U 1	U 1	1	0.5	U 0.5
	12/6/2006	U 0.5	U(1) 0.5	U 5	U(1) 1	U 1	0.9	0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.8	0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	0.6	U(1) 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.7	U(1) 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	1.2	J 0.55	U 0.2
	12/4/2009	U 0.5	J 0.62	UB 2	U 0.5	U 2	1.2	J 0.71	U 0.2
	6/15/2010	U 0.5	0.59	17.7	U 0.5	U 0.5	1.1	0.71	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	1.1	U 1	U 1
	6/14/2011	U 0.04	J 0.44	U 2	J 0.18	U 0.021	0.95	0.64	U 0.049
	12/5/2011	U 0.05	J 0.48	U 5	J 0.28	U 0.13	0.95	0.75	U 0.16
	6/4/2012	J 0.07	J 0.47	U 2	J 0.27	U 0.13	1.4	0.95	U 0.16
	12/4/2012	U 0.05	J 0.46	U 2	J 0.31	U 0.13	1.2	0.78	U 0.16
	6/10/2013	U 0.24	0.54	U 2	J 0.4	U 0.5	1.4	0.95	U 0.2
	12/17/2013	U 0.24	0.68	U 2	J 0.42	U 0.5	1.2	0.85	U 0.1
	8/20/2014	U 0.07	J 0.37	U 2	U 0.077	U 0.34	1.7	0.82	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	0.51	U 0.34	1.6	1.4	U 0.082
	6/16/2015	U 0.21	U 0.25	U 0.56	J 0.44	U 0.64	1.5	0.88	U 0.081
	11/30/2015	U 0.21	0.64	U 0.56	J 0.37	U 0.64	1.3	0.92	U 0.081
	6/14/2016	U 0.21	0.64	U 0.56	J 0.38	U 0.64	1.4	0.97	U 0.081
	11/29/2016	U 0.04	0.75	U 0.097	J 0.4	U 0.08	1.1	0.9	U 0.098

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloroethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloroethane (µg/L)	Chloromethane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-9A	6/14/2017	U 0.04	0.75	U 0.097	J 0.43	U 0.08	1.1	1.1	U 0.098
	11/30/2017	U 0.13	0.91	U 1.2	J 0.46	U 1.1	1.5	0.88	U 0.096
	8/20/2018	U 0.1	0.73	U 0.98	J 0.39	J 0.24	1.4	0.79	U 0.092
	11/29/2018	U 0.1	0.76	U 0.98	J 0.38	U 0.16	1.3	0.82	U 0.092
	6/10/2019	U 0.1	0.66	U 0.98	J 0.29	U 0.16	1.3	0.67	U 0.092
MW-9B	1/31/1995	U 1	U* 1	U 5	U* 1	U 1	4	2	U 1
	12/5/2011	U 0.05	0.67	U 5	J 0.28	U 0.13	1.2	1.1	U 0.16
	6/4/2012	J 0.05	0.53	U 2	J 0.19	U 0.13	1.4	1	U 0.16
	6/16/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1	0.94	U 0.081
	6/14/2017	U 0.04	0.66	U 0.097	U 0.055	U 0.08	0.91	0.69	U 0.098
	6/10/2019	U 0.1	0.68	U 0.98	U 0.17	U 0.16	0.93	0.61	U 0.092
MW-10	6/27/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	2/2/1995	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	11/28/1995	U 1	U 1	U* 5	U 1	U 1	U* 1	U* 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U 1	U 1	U* 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U* 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/29/1998	U 1	U 1	U(3) 5	U 1	3	U 1	1	U 1
	12/15/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	(1) U 1	(1) U 1	U 1
	6/23/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/13/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/8/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/12/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	1	U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	U 1	U 1	(1) U 1	1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/17/2005	U 1	(1) U 1	B U 5	U 1	U 1	U 1	(1) U 1	U 1
	12/13/2005	U 1	(1) U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/13/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	U 0.5	0.6	U 0.5
	12/6/2006	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	0.6	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	0.7	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	0.6	U 0.5
	6/26/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-10	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	J 0.66	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	J 0.82	U 0.2
	6/16/2010	U 0.5	U 0.5	42.4	U 0.5	U 0.5	U 0.5	0.78	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	0.7	U 0.049
	12/6/2011	U 0.05	J 0.26	U 5	U 0.072	U 0.13	U 0.16	0.57	U 0.16
	6/4/2012	J 0.09	J 0.2	U 2	U 0.072	U 0.13	U 0.16	0.58	U 0.16
	12/5/2012	U 0.05	J 0.17	U 2	U 0.072	U 0.13	U 0.16	J 0.5	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	J 0.39	U 0.2
	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	J 0.33	U 0.1
	8/21/2014	U 0.07	J 0.18	U 2	U 0.077	U 0.34	U 0.099	0.49	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	0.67	U 0.082
	6/15/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	J 0.39	U 0.081
	12/1/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	0.52	U 0.081
	6/16/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	J 0.4	U 0.081
	11/28/2016	U 0.04	J 0.25	U 0.097	U 0.055	U 0.08	U 0.13	0.45	U 0.098
	6/16/2017	U 0.04	J 0.19	U 0.097	U 0.055	U 0.08	U 0.13	J 0.33	U 0.098
	11/29/2017	U 0.13	J 0.43	U 1.2	U 0.14	U 1.1	U 0.16	J 0.4	U 0.096
	8/22/2018	U 0.1	J 0.19	U 0.98	U 0.17	J 0.48	U 0.17	J 0.39	U 0.092
	11/27/2018	U 0.1	J 0.23	U 0.98	U 0.17	U 0.16	U 0.17	J 0.32	U 0.092
	6/12/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	J 0.3	U 0.092
MW-11	11/27/1995	U 1	U 1	U* 5	U 1	U 1	U 1	U 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U* 1	U 1	U 1	U 1
	6/19/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/16/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/30/1998	U 1	U 1	U(3) 5	U 1	U(3) 1	U 1	U 1	U 1
	12/14/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1
	6/22/1999	U 1	U 1	(1) U 5	U 1	1	U 1	U 1	U 1
	12/14/1999	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/8/2000	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/18/2001	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/14/2002	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	U 1
	12/13/2002	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	U 1	U 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-11	12/6/2004	U 1	U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	U 1
	6/16/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	U 1	U 1
	12/13/2005	U 1	U 1	(1) U 5	U 1	U 1	(1) U 1	(1) U 1	U 1
	6/13/2006	U 0.5	U 0.5	(1) U 5	(1) U 1	U 1	0.6	(1) U 0.5	U 0.5
	12/6/2006	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U 0.5	U 0.5
	6/20/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 2	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/24/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U(1) 0.5	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	J 0.54	U 0.5	U 0.2
	6/15/2010	U 0.5	U 0.5	27.7	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/7/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/5/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	J 0.25	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	J 0.32	U 0.11	U 0.16
	12/5/2012	U 0.05	U 0.08	U 2	J 0.2	U 0.13	J 0.34	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	J 0.28	U 0.5	J 0.38	U 0.12	U 0.2
	12/17/2013	U 0.24	U 0.23	U 2	J 0.31	U 0.5	J 0.41	U 0.13	U 0.1
	8/19/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	J 0.36	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	J 0.37	U 0.084	U 0.082
	6/17/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	J 0.26	U 0.14	U 0.081
	12/2/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	J 0.25	U 0.14	U 0.081
	6/14/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/29/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	J 0.2	U 0.044	U 0.098
	6/14/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	12/4/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	8/22/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 0.68	J 0.33	U 0.15	U 0.092
	11/28/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	J 0.2	U 0.15	U 0.092
	6/10/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-12	11/27/1995	9	12	U* 5	4	U 1	1	11	50
	6/26/1996	11	10	U 5	5	U* 1	U* 1	9	81
	12/12/1996	7	6	U 5	4	U 1	U* 1	9	49
	6/20/1997	8	2	U 1	3	U 2	U 1	2	99
	12/16/1997	6	1	U 5	3	U 1	1	U 1	48
	3/24/1998	5	U 1	U 5	3	U 1	U 1	1	44
	6/30/1998	4	U(3) 1	U(3) 5	2	U 1	U 1	U(3) 1	43
	9/29/1998	3	U 1	U 5	2	U 1	U 1	1	29
	12/15/1998	3	U 1	UB 5	2	(1) U 1	U 1	U 1	22
	3/17/1999	2	(1) U 1	(1) U 5	1	U 1	U 1	U 1	22

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

J - Estimated Concentration

(1) - No HHS established

-- - Not collected/analyzed

U - Below Method Detection Limit

* (1) X F% - Additional QA/QC notes

- Value greater than the HHS

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloroethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloroethane (µg/L)	Chloromethane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-12	6/23/1999	2	U 1	(1) U 5	U 1	U 1	U 1	U 1	23
	9/13/1999	2	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	25
	12/14/1999	2	(1) U 1	(1) U 5	U 1	U 1	U 1	U 1	25
	3/22/2000	1	(1) U 1	U 5	(1) U 1	U 1	U 1	U 1	16
	6/8/2000	1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	27
	9/22/2000	2	U 1	U 5	1	U 1	U 1	U 1	33
	11/29/2000	2	U 1	U 5	U 1	U 1	U 1	U 1	29
	3/21/2001	2	U 1	U 5	1	U 1	U 1	U 1	19
	6/12/2001	1	U 1	U 5	U 1	U 1	U 1	1	18
	9/19/2001	1	1	U(1,3) 5	(1) U 1	U 1	U 1	1	16
	12/18/2001	2	2	(1) U 5	1	U 1	(1) U 1	2	20
	3/25/2002	1	2	U 5	1	U 1	U 1	3	21
	6/14/2002	1	2	(1) U 5	(1) U 1	U 1	U 1	2	22
	9/24/2002	1	3	UJR 5	U 1	U 1	U 1	3	15
	12/13/2002	1	4	U 5	(1) U 1	U 1	(1) U 1	4	22
	3/24/2003	1	4	(1) U 5	(1) U 1	(1) U 1	U 1	5	16
	6/10/2003	1	5	(1) U 5	(1) U 1	U 1	(1) U 1	6	14
	9/25/2003	1	6	(1) U 5	1	U 1	(1) U 1	8	19
	12/4/2003	2	6	(1) U 5	1	U 1	(1) U 1	8	JF% 27
	3/24/2004	2	7	U 5	1	U 1	(1) U 1	8	24
	6/8/2004	1	7	(1) U 5	1	U 1	(1) U 1	7	15
	9/9/2004	1	7	(1) U 5	1	U 1	(1) U 1	9	17
	12/7/2004	1	7	(1) U 5	1	U 1	(1) U 1	8	16
	3/29/2005	1	7	(1) U 5	1	U 1	(1) U 1	7	19
	6/17/2005	(1) U 1	7	B U 5	1	U 1	1	8	16
	9/20/2005	1	7	(1) BU 5	1	U 1	1	7	12
	12/14/2005	(1) U 1	6	(1) U 5	1	U 1	1	6	15
	3/16/2006	(1) U 1	6	U 5	(1) U 1	U 1	1	6	19
	6/13/2006	1.2	8.3	(1) U 5	1	U 1	1.2	6.8	13
	9/21/2006	0.8	5.9	U(1) 5	U(1) 1	U 1	1.5	6.3	12.5
	12/7/2006	0.5	3.6	U 5	U(1) 1	U 1	U(1) 0.5	2.8	4.4
	3/15/2007	0.9	7.4	U 5	1	U 1	3	7	11.5
	6/21/2007	1	8.2	U 5	U 1	U 1	1.8	6.5	JF% 21
	12/11/2007	0.9	10	U 5	1.2	U 1	1.2	7.5	19
	6/25/2008	0.9	7.1	U(1) 5	U(1) 1	U 1	0.6	5.1	16
	12/10/2008	1.5	7.7	U 4	U 1	U 1	U 1	5.7	13.3
	6/2/2009	1.9	8	U 2	J 0.91	U 2	U 0.5	5.1	19.7
	12/9/2009	2.5	11.6	UB 2	1.2	U 2	U 0.5	6.7	26.4
	6/15/2010	2.2	9.6	22.3	1.1	U 0.5	U 0.5	4.4	27.4
	12/7/2010	1.8	11.3	U 1	1.5	U 1	U 1	4.5	J 30.4

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-12	6/14/2011	2	4.4	U 2	1.4	U 0.021	U 0.041	1.9	J 24.9
	12/6/2011	2.1	9.6	U 5	1.7	U 0.13	U 0.16	4.3	17.4
	6/5/2012	2	10.8	U 2	2	U 0.13	U 0.16	3.5	20.7
	12/5/2012	1.5	9.1	U 2	1.7	U 0.13	U 0.16	1.5	21.2
	6/12/2013	1.4	11.1	U 2	1.9	U 0.5	U 0.25	1	17.7
	12/17/2013	1.5	6.6	U 2	1.5	U 0.5	U 0.25	0.42	22.4
	3/27/2014	1.7	3.9	U 2	1.2	U 0.5	U 0.25	J 0.25	19.7
	8/19/2014	1.1	7.2	U 2	0.99	U 0.34	U 0.099	J 0.29	10.7
	12/8/2014	1.3	5.5	U 2	1	U 0.34	U 0.12	U 0.084	17
	6/17/2015	1	6.8	U 0.56	0.87	J 0.9	U 0.19	J 0.26	10.5
	12/2/2015	1.2	6.5	U 0.56	1.1	U 0.64	U 0.19	U 0.14	11
	6/14/2016	1.1	8.3	U 0.56	1.1	U 0.64	U 0.19	U 0.14	10.5
	8/25/2016	1.2	9.8	U 0.097	1.1	U 0.08	U 0.13	U 0.051	10.2
	11/29/2016	0.9	6.2	U 0.097	1.1	U 0.08	U 0.13	U 0.044	7.9
	4/17/2017	0.72	7.4	U 0.097	1.1	U 0.08	U 0.13	U 0.044	8.7
	6/14/2017	0.7	6.1	U 0.097	1.1	U 0.08	U 0.13	U 0.044	9
	9/20/2017	0.79	8	U 1.2	0.9	U 1.1	U 0.16	U 0.18	5.9
	12/4/2017	0.78	6.3	U 1.2	0.98	U 1.1	U 0.16	U 0.18	6.3
	3/27/2018	0.74	7.7	U 1.2	0.74	U 1.1	U 0.16	U 0.18	5.3
	8/22/2018	1	6.9	U 0.98	1.2	U 0.16	U 0.17	J 0.21	9.4
	10/16/2018	0.64	5.1	U 0.98	0.94	U 0.16	U 0.17	U 0.15	8.7
	11/28/2018	0.54	5.4	U 0.98	0.96	U 0.16	U 0.17	J 0.29	10
	3/27/2019	0.86	8.5	U 0.98	1.5	U 0.16	U 0.17	J 0.32	9.7
	6/10/2019	0.82	6.8	U 0.98	1.7	U 0.16	U 0.17	0.73	15.1
MW-13	11/28/1995	1	U 1	U* 5	2	U 1	U* 1	2	21
	6/25/1996	1	U* 1	U 5	3	U 1	U* 1	1	41
	12/11/1996	1	U* 1	U 5	2	U 1	U 1	U 1	28
	6/20/1997	U 1	1	U 1	1	U 2	1	2	26
	12/16/1997	1	U 1	U 5	2	U 1	2	U 1	29
	3/23/1998	1	U 1	U 5	2	U 1	U 1	1	29
	6/30/1998	1	(3) U 1	U 5	1	U 1	(3) U 1	1	34
	9/29/1998	1	U 1	U 5	1	U 1	U 1	1	24
	12/14/1998	1	(1) U 1	U(1)B 5	1	(1) U 1	(1) U 1	(1) U 1	24
	3/15/1999	(1) U 1	U 1	6	(1) U 1	U 1	U 1	(1) U 1	19
	6/23/1999	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	23
	9/13/1999	(1) U 1	U 1	U 5	U 1	U 1	U 1	(1) U 1	26
	12/14/1999	(1) U 1	U 1	(1) U 5	(1) U 1	U 1	U 1	(1) U 1	27
	3/22/2000	(1) U 1	U 1	U 5	(1) U 1	U 1	U 1	(1) U 1	18
	6/8/2000	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	23
	9/22/2000	(1) U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	24

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloroethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloroethane (µg/L)	Chloro-methane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-13	11/29/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	22
	3/21/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	15
	6/12/2001	1	U 1	U 5	U 1	U 1	U 1	U 1	19
	9/19/2001	(1) U 1	(1) U 1	U(1,3) 5	(1) U 1	U 1	(1) U 1	(1) U 1	12
	12/18/2001	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	10
	3/25/2002	U 1	U 1	U 5	U 1	U 1	U 1	U 1	11
	6/13/2002	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	12
	9/24/2002	U 1	U 1	UJR 5	U 1	U 1	U 1	U 1	10
	12/13/2002	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	12
	3/24/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	(1) U 1	(1) U 1	(1) U 1	8
	6/10/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	7
	9/25/2003	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	13
	12/4/2003	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	JF% 15
	3/24/2004	(1) U 1	U 1	U 5	1	U 1	(1) U 1	(1) U 1	13
	6/8/2004	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	(1) U 1	(1) U 1	8
	9/9/2004	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	11
	12/7/2004	(1) U 1	(1) U 1	(1) U 5	1	U 1	U 1	(1) U 1	9
	3/29/2005	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	11
	6/17/2005	(1) U 1	U 1	U 5	1	U 1	U 1	(1) U 1	9
	9/20/2005	(1) U 1	(1) U 1	(1) BU 5	1	U 1	(1) U 1	(1) U 1	8
	12/14/2005	(1) U 1	(1) U 1	(1) U 5	1	U 1	(1) U 1	(1) U 1	9
	3/16/2006	U 1	(1) U 1	U 5	(1) U 1	U 1	(1) U 1	(1) U 1	11
	6/13/2006	0.6	0.7	(1) U 5	(1) U 1	U 1	(1) U 0.5	(1) U 0.5	7.1
	9/21/2006	0.6	U(1) 0.5	U(1) 5	U(1) 1	U 1	U(1) 0.5	U(1) 0.5	7.6
	12/7/2006	0.5	0.7	U 5	U(1) 1	U 1	U 0.5	U(1) 0.5	9.7
	3/15/2007	U(1) 0.5	0.8	U 5	1	U 1	U(1) 0.5	U 0.5	9.6
	6/20/2007	0.6	1	U 5	1	U 1	U 0.5	0.6	JF% 20
	12/11/2007	0.6	0.9	U 5	1.2	U 1	U 0.5	U(1) 0.5	18
	6/24/2008	U(1) 0.5	0.8	U(1) 5	U 1	U 1	U(1) 0.5	0.5	15
	12/10/2008	U 1	1.3	U 4	1.3	U 1	U 1	U 1	20.2
	6/2/2009	J 0.53	1.1	U 2	J 0.96	U 2	U 0.5	J 0.61	14.6
	12/9/2009	J 0.69	1.1	UB 2	1.2	U 2	U 0.5	J 0.61	22.5
	6/16/2010	0.68	1.1	36.3	1	U 0.5	U 0.5	0.55	19.9
	12/7/2010	U 1	U 1	U 1	1.1	U 1	U 1	U 1	J 23.8
	6/15/2011	0.61	0.99	U 2	0.96	U 0.021	J 0.25	0.55	J 17.9
	12/7/2011	0.79	1	U 5	1	U 0.13	J 0.29	0.5	17.7
	6/6/2012	0.69	1.1	U 2	0.98	U 0.13	J 0.33	J 0.46	19.3
	12/5/2012	0.66	1.1	U 2	1.1	U 0.13	J 0.23	J 0.41	20.9
	6/12/2013	0.72	1.2	U 2	1.5	U 0.5	J 0.26	J 0.36	21.1
	12/17/2013	0.59	1.1	U 2	1.5	U 0.5	U 0.25	J 0.32	18.9

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

J - Estimated Concentration

(1) - No HHS established

-- - Not collected/analyzed

U - Below Method Detection Limit

* (1) X F% - Additional QA/QC notes

- Value greater than the HHS

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-13	3/27/2014	0.68	1.1	U 2	1.5	U 0.5	U 0.25	J 0.31	17.1
	8/19/2014	0.59	0.82	U 2	0.83	U 0.34	J 0.25	0.45	11.7
	12/9/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	J 0.14	0.41	16.7
	6/16/2015	0.6	J 0.27	U 0.56	0.89	U 0.64	J 0.23	J 0.34	11.6
	12/2/2015	J 0.46	0.77	U 0.56	0.8	U 0.64	J 0.21	J 0.35	9
	6/15/2016	0.67	1	U 0.56	1.1	U 0.64	U 0.19	J 0.39	11.2
	11/30/2016	J 0.46	0.92	U 0.097	0.95	U 0.08	U 0.13	J 0.37	8.4
	6/15/2017	0.51	1.2	U 0.097	1.1	U 0.08	U 0.13	0.61	9.7
	12/1/2017	0.51	1.1	U 1.2	0.93	U 1.1	U 0.16	J 0.39	6.7
	8/23/2018	0.57	1	U 0.98	0.84	J 0.69	J 0.31	0.49	6.1
	11/29/2018	0.61	0.81	U 0.98	0.73	U 0.16	U 0.17	J 0.31	8.7
	6/10/2019	0.51	0.93	U 0.98	0.83	U 0.16	U 0.17	J 0.21	9.7
MW-14	3/22/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/11/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/9/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	(1) U 1	U 1
	6/13/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U 1	U(1) 1	U 0.5	U 0.5	U 0.5
	6/21/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/11/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/25/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/10/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/3/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/15/2010	U 0.5	U 0.5	19.7	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/15/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/5/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/17/2013	U 0.24	U 0.23	U 2	U 0.25	J 0.96	U 0.25	U 0.13	U 0.1
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
MW-15	10/8/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/11/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/3/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	JJF% 1

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-15	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/16/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	(1) U 0.5	U 0.5	U 0.5
	12/5/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	1.2	U 0.5	U 0.5	JF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/23/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/8/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/1/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/14/2010	U 0.5	U 0.5	32.9	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/13/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/6/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/4/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/10/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/16/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	8/20/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	6/16/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/30/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/14/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/29/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/15/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	11/30/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	8/20/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 0.61	U 0.17	U 0.15	U 0.092
	11/28/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
	6/10/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-16	6/4/2012	U 0.05	3.4	U 2	1.4	U 0.13	2.2	2.9	U 0.16
	12/4/2012	U 0.05	3.4	U 2	1	U 0.13	1.2	2	U 0.16
	6/10/2013	U 0.24	4.3	U 2	1.5	U 0.5	1.4	2.1	U 0.2
	12/17/2013	U 0.24	4.3	U 2	1.5	U 0.5	1	1.4	U 0.1
MW-17	3/25/2014	J 0.38	24.5	J 5	0.57	U 0.5	15.9	5.9	1.5
	5/1/2014	J 0.08	27.6	5.1	0.74	U 0.34	16	5.8	2.3
	8/19/2014	J 0.1	27.4	4.7	0.63	U 0.34	24.8	7.4	1
	12/9/2014	J 0.34	33	4.2	U 0.087	U 0.34	21.8	7.7	1.5

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-17	6/17/2015	U 0.21	22	4.5	0.6	U 0.64	15.7	5.4	0.93
	12/2/2015	U 0.21	16.3	J 2.9	J 0.36	U 0.64	12.5	4.4	0.45
	6/14/2016	U 0.21	9.3	J 2.1	U 0.22	U 0.64	7	2.5	0.26
	8/25/2016	U 0.04	5.6	J 0.34	U 0.055	U 0.08	4	1.4	J 0.14
	11/30/2016	U 0.04	8.4	J 1.5	U 0.055	U 0.08	3.2	1.4	U 0.098
	4/18/2017	U 0.04	6.5	J 0.23	U 0.055	U 0.08	4.5	2	U 0.098
	6/14/2017	U 0.04	7.4	J 0.57	U 0.055	U 0.08	3.8	2	U 0.098
	9/20/2017	U 0.13	4.9	U 1.2	U 0.14	U 1.1	3.7	1.5	U 0.096
	12/4/2017	U 0.13	5.6	U 1.2	U 0.14	U 1.1	3.8	1.6	U 0.096
	3/27/2018	U 0.13	6	U 1.2	U 0.14	U 1.1	4	1.7	U 0.096
	8/21/2018	U 0.1	16.2	6.2	0.55	U 0.16	3.5	2.1	U 0.092
	10/16/2018	U 0.1	17.2	7.7	0.59	U 0.16	4.5	2.6	J 0.13
	11/28/2018	U 0.1	18.7	9.4	0.79	U 0.16	6.2	3.2	0.35
	3/27/2019	U 0.1	25.4	14.6	0.89	U 0.16	8.9	3.6	0.43
	6/13/2019	U 0.1	27.5	14.2	0.93	U 0.16	10	4.7	0.56
MW-18	5/2/2014	0.66	18.5	U 2	0.56	U 0.34	0.87	J 0.38	3.3
	8/20/2014	1.3	19	U 2	0.65	U 0.34	0.94	0.49	2.5
	12/9/2014	1.3	17.1	U 2	U 0.087	U 0.34	0.51	0.5	3.9
	6/16/2015	1.1	13.4	U 0.56	J 0.37	U 0.64	J 0.23	0.47	3.2
	12/2/2015	0.93	9.6	U 0.56	J 0.34	U 0.64	U 0.19	0.42	3.9
	6/14/2016	0.94	6.8	U 0.56	U 0.22	U 0.64	U 0.19	J 0.29	3.5
	8/25/2016	1.2	7.2	U 0.097	U 0.055	U 0.08	U 0.13	J 0.3	5
	11/30/2016	0.85	4.1	U 0.097	U 0.055	U 0.08	U 0.13	J 0.35	4.1
	4/18/2017	1.1	4.3	U 0.097	U 0.055	U 0.08	U 0.13	J 0.27	5.4
	6/15/2017	J 0.48	1.5	U 0.097	U 0.055	U 0.08	U 0.13	J 0.3	2.1
	9/21/2017	0.61	2.5	U 1.2	U 0.14	U 1.1	U 0.16	J 0.32	2.4
	12/4/2017	0.78	2.4	U 1.2	U 0.14	U 1.1	U 0.16	J 0.29	3.9
	3/27/2018	0.71	2.2	U 1.2	U 0.14	U 1.1	U 0.16	J 0.25	3.9
	8/21/2018	J 0.41	1.1	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	1.5
	10/16/2018	0.6	1.5	U 0.98	U 0.17	J 0.47	U 0.17	J 0.29	2.7
	11/28/2018	0.67	1.7	U 0.98	U 0.17	U 0.16	U 0.17	J 0.32	3.8
	3/27/2019	1.2	1.9	U 0.98	U 0.17	U 0.16	U 0.17	J 0.27	4.6
	6/10/2019	J 0.18	J 0.16	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	0.47
MW-19	3/26/2014	J 0.24	U 0.23	U 2	U 0.25	U 0.5	0.77	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	0.8	U 0.084	U 0.2
	8/20/2014	J 0.14	U 0.11	U 2	U 0.077	U 0.34	1.2	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.1	U 0.084	U 0.082
	6/18/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	0.87	U 0.14	U 0.081
	12/1/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	0.9	U 0.14	U 0.081
	6/15/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	0.72	U 0.14	U 0.081

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-19	11/28/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	0.76	U 0.044	U 0.098
	6/15/2017	J 0.15	U 0.12	U 0.097	U 0.055	U 0.08	0.72	U 0.044	U 0.098
	11/29/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	0.88	U 0.18	U 0.096
	8/20/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	0.73	U 0.15	U 0.092
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	0.68	U 0.15	U 0.092
	6/12/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	0.82	U 0.15	U 0.092
MW-20	3/25/2014	U 0.24	J 0.32	U 2	U 0.25	U 0.5	10.6	J 0.34	U 0.1
	5/2/2014	J 0.69	J 0.15	U 2	U 0.077	U 0.34	9.4	J 0.33	U 0.2
	8/19/2014	J 0.14	0.95	U 2	U 0.077	U 0.34	14.5	0.76	U 0.082
	12/9/2014	U 0.07	1	U 2	U 0.087	U 0.34	13.8	0.91	U 0.082
	6/17/2015	U 0.21	0.8	U 0.56	U 0.22	U 0.64	9.6	0.55	U 0.081
	12/1/2015	U 0.21	1.2	U 0.56	U 0.22	U 0.64	11.7	0.7	U 0.081
	6/15/2016	U 0.21	0.91	U 0.56	U 0.22	U 0.64	9.9	0.66	U 0.081
	8/25/2016	U 0.04	0.7	U 0.097	U 0.055	U 0.08	11.5	0.55	U 0.084
	11/30/2016	U 0.04	J 0.43	U 0.097	U 0.055	U 0.08	7.3	J 0.39	U 0.098
	4/17/2017	U 0.04	J 0.44	U 0.097	U 0.055	U 0.08	6.5	J 0.4	U 0.098
	6/15/2017	U 0.04	J 0.43	U 0.097	U 0.055	U 0.08	8.5	0.47	U 0.098
	9/21/2017	U 0.13	J 0.29	U 1.2	U 0.14	U 1.1	6.7	J 0.39	U 0.096
	12/4/2017	U 0.13	J 0.32	U 1.2	U 0.14	U 1.1	5.7	J 0.22	U 0.096
	3/27/2018	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	8.1	J 0.39	U 0.096
	8/22/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 0.33	8.3	J 0.34	U 0.092
	10/16/2018	U 0.1	J 0.16	U 0.98	U 0.17	J 0.24	7.4	0.41	U 0.092
	11/27/2018	U 0.1	J 0.25	U 0.98	U 0.17	U 0.16	6.7	J 0.32	U 0.092
	3/27/2019	U 0.1	J 0.18	U 0.98	U 0.17	U 0.16	6.5	J 0.22	U 0.092
	6/13/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	7.1	J 0.27	U 0.092
MW-21	3/28/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	J 0.18	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	12/1/2015	J 0.24	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/28/2017	J 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-22	3/27/2014	J 0.33	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	J 0.46	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	J 0.32	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	12/1/2015	J 0.22	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/28/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
MW-23	3/27/2014	J 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	J 0.2	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/20/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	J 0.33	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	12/1/2015	J 0.32	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/28/2017	J 0.24	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	11/27/2018	J 0.22	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
MW-24	3/25/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	J 0.3	U 0.13	U 0.1
	5/2/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	J 0.36	U 0.084	U 0.2
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	0.57	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	1.7	U 0.084	U 0.082
	6/18/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1.1	U 0.14	U 0.081
	12/1/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1	U 0.14	U 0.081
	6/16/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	0.66	U 0.14	U 0.081
	8/25/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	0.56	U 0.051	U 0.084
	11/28/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	1.1	U 0.044	U 0.098
	6/15/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	1.2	U 0.044	U 0.098
	11/28/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	1.7	U 0.18	U 0.096
	8/22/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 0.95	2.8	U 0.15	U 0.092
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	3	U 0.15	U 0.092
	6/13/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	2	U 0.15	U 0.092
MW-25	5/2/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	11/28/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
MW-26	3/27/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	5/1/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.2
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/11/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	11/28/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
MW-27	1/16/2015	J 0.08	U 0.11	U 2	U 0.087	U 0.34	1.2	U 0.084	U 0.082
	6/18/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1.4	U 0.14	U 0.081
	6/15/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1.1	U 0.14	U 0.081
	11/28/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	0.96	U 0.044	U 0.098
	6/19/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	0.91	U 0.044	U 0.098
	11/29/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	1.1	U 0.18	U 0.096
	8/22/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 0.74	0.99	U 0.15	U 0.092
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	1.1	U 0.15	U 0.092
	6/13/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	1	U 0.15	U 0.092

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

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

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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloroethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloroethane (µg/L)	Chloromethane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
McILHATTAN SEEP	1/19/1994	U 2	1	U 5	U 1	U 1	4	3	U 1
	1/19/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	5	1	U 1
	6/27/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/31/1995	U 1	U* 1	U 5	U* 1	U 1	4	1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	3	2	U 1
	11/28/1995	U 1	U 1	U* 5	U* 1	U 1	5	1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U* 1	2	U* 1	U 1
	12/12/1996	U 1	U* 1	U 5	U* 1	U* 1	3	U* 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	1	4	U 1
	6/29/1998	U 1	U(3) 1	8	U(3) 1	U(3) 1	3	1	U 1
	12/15/1998	U 1	(1) U 1	U(1)B 5	(1) U 1	(1) U 1	4	4	U 1
	6/23/1999	U 1	U 1	(1) U 5	U 1	U 1	2	1	U 1
	12/14/1999	U 1	U 1	(1) U 5	U 1	U 1	3	2	U 1
	6/7/2000	U 1	U 1	(1) U 5	U 1	U 1	3	1	U 1
	11/29/2000	U 1	U 1	U 5	U 1	U 1	3	1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	3	1	U 1
	12/18/2001	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	1	U 1
	6/14/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/12/2002	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	4	1	(1) U 1
	6/10/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	(1) U 1	U 1
	12/3/2003	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	JJF% 1
	6/8/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/6/2004	U 1	(1) U 1	(1) U 5	(1) U 1	U 1	3	(1) U 1	U 1
	6/17/2005	U 1	(1) U 1	U 5	(1) U 1	U 1	2	(1) U 1	U 1
	12/14/2005	(1) U 1	(1) U 1	(1) U 5	(1) U 1	U 1	2	(1) U 1	U 1
	6/12/2006	U 0.5	(1) U 0.5	(1) U 5	(1) U 1	U 1	1.4	(1) U 0.5	U 0.5
	12/7/2006	U 0.5	U(1) 0.5	U 5	U 1	U 1	1.8	0.5	U 0.5
	6/19/2007	U 0.5	U 0.5	U 5	U 1	U 1	0.6	U 0.5	JJF% 0.5
	12/10/2007	U 0.5	U 0.5	U 5	U 1	U(1) 1	1.3	U 0.5	U 0.5
	6/26/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	0.6	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	1.4	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	1.1	U 0.5	U 0.2
	12/4/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	1.6	U 0.5	U 0.2
	6/16/2010	U 0.5	U 0.5	40.4	U 0.5	U 0.5	1.2	U 0.5	U 0.5
	12/6/2010	U 1	U 1	U 1	U 1	U 1	1.2	U 1	U 1
	6/14/2011	U 0.04	U 0.08	U 2	U 0.072	J 0.061	0.73	J 0.26	U 0.049
	12/6/2011	U 0.05	J 0.13	U 5	U 0.072	U 0.13	1.1	J 0.3	U 0.16
	6/5/2012	U 0.05	J 0.19	U 2	U 0.072	U 0.13	1.1	J 0.32	U 0.16

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

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


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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloro-ethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloro-ethane (µg/L)	Chloro-methane (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
McILHATTAN SEEP	12/5/2012	U 0.05	J 0.23	U 2	U 0.072	U 0.13	1.2	J 0.32	U 0.16
	6/12/2013	U 0.24	J 0.3	U 2	U 0.25	U 0.5	1.3	0.41	U 0.2
	12/18/2013	U 0.24	J 0.32	U 2	U 0.25	J 0.7	1.2	J 0.39	U 0.1
	3/28/2014	U 0.24	U 0.23	U 2	U 0.25	U 0.5	1.2	0.41	U 0.1
	8/21/2014	U 0.07	J 0.26	U 2	U 0.077	U 0.34	1.7	J 0.3	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	6/15/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	1.2	J 0.37	U 0.081
	12/1/2015	U 0.21	J 0.34	U 0.56	U 0.22	U 0.64	1.2	0.41	U 0.081
	6/16/2016	U 0.21	J 0.39	U 0.56	U 0.22	U 0.64	0.95	J 0.3	U 0.081
	11/28/2016	U 0.04	J 0.39	U 0.097	U 0.055	U 0.08	1	J 0.26	U 0.098
	6/16/2017	U 0.04	J 0.32	U 0.097	U 0.055	U 0.08	0.87	J 0.35	U 0.098
	11/29/2017	U 0.13	J 0.37	U 1.2	U 0.14	U 1.1	1	J 0.22	U 0.096
	8/22/2018	U 0.1	J 0.36	U 0.98	U 0.17	J 0.52	0.96	J 0.25	U 0.092
	11/27/2018	U 0.1	J 0.32	U 0.98	U 0.17	U 0.16	0.83	J 0.25	U 0.092
	6/12/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	0.59	U 0.15	U 0.092
SHOP WELL	6/13/2011	U 0.04	1	U 2	1.6	U 0.021	3.8	2.3	J 0.13
	12/7/2011	U 0.05	0.95	U 5	1.7	U 0.13	3.9	2.2	U 0.16
	6/4/2012	U 0.05	0.64	U 2	1.2	U 0.13	3.7	1.7	U 0.16
	12/4/2012	U 0.05	0.86	U 2	1.7	J 0.21	4.5	2.1	U 0.16
	6/10/2013	U 0.24	0.65	U 2	1.9	U 0.5	4.4	1.7	U 0.2
	12/16/2013	U 0.24	1.5	U 2	3.7	U 0.5	7.3	3	U 0.1
	8/19/2014	U 0.07	1	U 2	2.1	U 0.34	8.7	2.5	U 0.082
	12/8/2014	U 0.07	U 0.11	U 2	2.2	U 0.34	7.2	U 0.084	U 0.082
	12/1/2017	U 0.13	1.1	U 1.2	2.3	U 1.1	5.6	2	U 0.096
VET CLINIC WELL	1/19/1994	U 2	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1994	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	1/31/1995	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/28/1995	U 1	U 1	U 1	U 1	U 1	4	2	U 1
	11/28/1995	U 1	U 1	U* 5	U 1	U 1	U 1	U 1	U 1
	6/26/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/1996	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/20/1997	U 1	U 1	U 1	U 1	U 2	U 1	U 1	U 2
	12/17/1997	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/30/1998	U 1	U 1	U(3) 5	U 1	U 1	U 1	U 1	U 1
	12/15/1998	U 1	U 1	U(1)B 5	U 1	(1) U 1	U 1	U 1	U 1
	6/23/1999	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/1999	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/7/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	11/28/2000	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2001	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1

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

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



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

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

Sampling Location	Sampling Date	LABORATORY PARAMETERS							
		Benzene (µg/L)	Cis 1,2-dichloroethene (µg/L)	Methylene Chloride (µg/L)	1,1-Dichloroethane (µg/L)	Chloro-methane (µg/L)	Tetrachloroethene (µg/L)	Trichloroethene (µg/L)	Vinyl chloride (µg/L)
HHS		5	70	5	(1)	30	5	5	2
VET CLINIC WELL	12/18/2001	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/14/2002	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/12/2002	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/10/2003	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/4/2003	U 1	U 1	U 5	U 1	U 1	U 1	U 1	JJF% 1
	6/8/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	12/6/2004	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/17/2005	U 1	U 1	U 5	U 1	U 1	U 1	U 1	U 1
	12/14/2005	U 1	U 1	(1) U 5	U 1	U 1	U 1	U 1	U 1
	6/12/2006	U 0.5	U 0.5	(1) U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/7/2006	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/21/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	JJF% 0.5
	12/12/2007	U 0.5	U 0.5	U 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	6/25/2008	U 0.5	U 0.5	U(1) 5	U 1	U 1	U 0.5	U 0.5	U 0.5
	12/9/2008	U 1	U 1	U 4	U 1	U 1	U 1	U 1	U 0.4
	6/2/2009	U 0.5	U 0.5	U 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	12/10/2009	U 0.5	U 0.5	UB 2	U 0.5	U 2	U 0.5	U 0.5	U 0.2
	6/16/2010	U 0.5	U 0.5	38.1	U 0.5	U 0.5	U 0.5	U 0.5	U 0.5
	12/8/2010	U 1	U 1	U 1	U 1	U 1	U 1	U 1	U 1
	6/15/2011	U 0.04	U 0.08	U 2	U 0.072	U 0.021	U 0.041	U 0.05	U 0.049
	12/7/2011	U 0.05	U 0.08	U 5	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/5/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	12/6/2012	U 0.05	U 0.08	U 2	U 0.072	U 0.13	U 0.16	U 0.11	U 0.16
	6/12/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.12	U 0.2
	12/18/2013	U 0.24	U 0.23	U 2	U 0.25	U 0.5	U 0.25	U 0.13	U 0.1
	8/21/2014	U 0.07	U 0.11	U 2	U 0.077	U 0.34	U 0.099	U 0.084	U 0.082
	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082
	6/15/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	12/1/2015	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	6/16/2016	U 0.21	U 0.25	U 0.56	U 0.22	U 0.64	U 0.19	U 0.14	U 0.081
	11/28/2016	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	6/16/2017	U 0.04	U 0.12	U 0.097	U 0.055	U 0.08	U 0.13	U 0.044	U 0.098
	11/29/2017	U 0.13	U 0.2	U 1.2	U 0.14	U 1.1	U 0.16	U 0.18	U 0.096
	8/22/2018	U 0.1	U 0.15	U 0.98	U 0.17	J 1.2	U 0.17	U 0.15	U 0.092
	11/27/2018	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
	6/12/2019	U 0.1	U 0.15	U 0.98	U 0.17	U 0.16	U 0.17	U 0.15	U 0.092
SNOWFILL WELL	12/10/2014	U 0.07	U 0.11	U 2	U 0.087	U 0.34	U 0.12	U 0.084	U 0.082

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

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

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

**TABLE 4
PERFORMANCE OF LANDFILL GAS EXTRACTION SYSTEM
BOZEMAN LANDFILL
BOZEMAN, MONTANA**

Recording Time Duration	Number of LFG Extraction Wells	Destruction Efficiency	Average System Vacuum (inWC)	Average Gas Flow (SCFM)	Average Methane Content (% by volume)	Percent of Time Flare Operates (%)	Total Hours per Time Duration	Approximate SCF CH4 per Time Duration	Approximate Methane Collected (pounds/yr)	Approximate Methane Collected (pounds/day)	Approximate Methane Destroyed (pounds/yr)
New LFG Extraction System											
First Year Months (Aug 9, 2016 to August 9, 2017)	25	0.99996	-12	154	34	92	8,760	25,318,783	1,070,127 Note 1	2,932	1,070,084
Second Year (August 10, 2017 to August 29, 2018)	25	0.99996	-15	160	34	95	8,760	27,502,629	1,162,430 Note 1	3,185	1,162,383
Third Year (August 30, 2018 to June 18, 2019)	25	0.99996	-22	164	34	94	8,760	27,589,601	1,166,106 Note 1	3,195	1,166,059

Notes : LFG: Landfill Gas inWC: Inches Water Column SCFM: Standard Cubic Feet per Minute %: Percent yr: Year
Operational Efficiency is the difference between actual time elapsed and the flare operation timer
Methane Content measured using an Envision® Gas Analyzer in the field
Mass calculated using the molar volume of 379.5 ft³/lb-mole @ STP

Note 1 : SCF CH4 per year $\frac{\text{CH4 Molecular Weight}}{\text{lb mole}} \times \frac{\text{Molar Volume}}{379.5 \text{ ft}^3} = \text{lbs per year}$

Note 2 : Assumed value. Destruction Efficiency was never measured in the Old Flare
MW : Molecular weight

**TABLE 5
LANDFILL GAS FIELD MONITORING DATA
BOZEMAN LANDFILL
BOZEMAN, MONTANA**

Updated: 11/19/2019 MFP

Date	Inlet Vacuum	Inlet Temperature	Low Flow	High Flow	LFG Flow	CH4	CO2	O2	N2	Comment
	InWC	DegF	SCFM	SCFM	SCFM	%	%	%	%	
8/9/2016										New Flare Startup
8/10/2016	-9.30					24.0	23.1	2.4	50.6	
8/12/2016	-9.90				157	25.8	25.9	0.3	48.0	
8/18/2016	-10.10				170	27.0	26.5	0.3	46.2	
8/22/2016	-10.10				169	26.5	26.0	0.3	47.2	
8/23/2016	-10.00				155	32.8	32.1	0.1	35.0	
9/15/2016	-9.52					32.2	31.9	0.0	35.9	
10/12/2016	-10.00				140	32.3	31.6	0.1	36.1	
10/20/2016	-10.00				157	34.5	32.1	0.0	33.4	
10/25/2016	-10.00				152	36.6	34.1	0.0	29.3	
10/27/2016		62			151	41.1	37.8	0.1	21.0	
11/22/2016	-10.20	50	89	164	150	35.4	32.3	0.3	32.0	LFG vac setpt incr to 11.9 inWC
12/14/2016	-11.10	43	75	149	135	38.7	33.0	0.2	28.1	
12/19/2016	-13.90	43			175					LFG vac setpt incr to 14 inWC
1/12/2017	-14.10	44	155	172	160	37.3	32.9	0.1	29.7	
1/18/2017	-15.50	42			165					
1/24/2017	-13.50	41			175					Bison conducts Emissions test
2/2/2017	-13.90	39			112	40.4	36.1	0.5	23.0	
2/16/2017	-14.30	40			148					
3/9/2017	-13.00	41	117	179	150					
3/21/2017	-11.30	44	139	189	150	36.2	33.6	0.0	30.2	
4/4/2017	-12.28					35.1	33.5	0.0	31.4	
4/19/2017						35.4	33.2	0.0	31.4	
4/20/2017	-12.00	48	116	190	157					
5/9/2017	-11.10	50			149					
5/16/2017	-12.50	54			158	40.6	34.2	0.0	25.2	
5/31/2017	-13.20	57	124	182	144					
6/22/2017	-13.50	61	118	180	145	35.1	33.1	0.0	31.8	
7/17/2017	-12.80	67	136	188	155	32.8	32.5	0.5	34.2	
8/18/2017	-12.90	70	180	180	180	30.5	31.3	0.0	38.2	Long dry spell (+4 weeks)
10/4/2017	-13.10	58			179	31.7	31.9	0.0	36.4	
10/30/2017	-13.00	55			184	30.4	31.7	0.0	37.9	
11/15/2017	-12.70	45	97	173	140	30.2	30.8	0.0	39.0	
12/13/2017	-13.00	44	74	167	137	32.9	31.4	0.0	35.7	
12/29/2017	-13.60	42			149	36.3	31.9	0.3	31.5	1.5 ft snowpack, cold
1/9/2018	-13.80	42			149					
1/25/2018	-14.60	42			163	34.8	32.0	0.6	32.6	
2/14/2018	-17.30	40			185	33.3	30.2	1.5	35.0	GW well couplers leaking
3/26/2018	-16.10	41			134	37.4	32.6	0.0	30.0	
5/7/2018	-17.02	50			159	37.4	33.3	0.0	29.3	
5/24/2018	-16.53	54			157	37.2	32.3	0.0	30.5	
6/20/2018	-16.90	60			167	38.4	32.9	0.0	28.7	
7/12/2018	-16.70	65			164	35.7	32.6	0.0	31.7	
8/30/2018	-16.90	64			186	33.3	31.8	0.0	34.9	
9/19/2018	-17.00	62			188	32.3	31.5	0	36.2	
10/15/018	-16.90	57			196	31.7	31.4	0	36.9	PID - 1.7 ppm
11/12/2018	-17.10	50			191	32.2	31.1	0.0	36.7	
12/28/2018	-21.60	41			155	35.8	31.7	0.3	32.2	Incr vacuum for cold wx op
1/15/2019						33.8	31.8	0.1	34.3	
2/11/2019	-27.10	39			132	36.0	31.7	0.0	32.3	
2/26/2019	-27.50	37			100	35.0	32.2	0.1	32.7	
3/11/2019	-29.30	40			189.4	37.4	32.4	0.0	30.2	
4/29/2019	-26.10	43			165.5	32.8	30.8	0.0	36.4	
5/15/2019	-19.90	49			132.5	33.4	30.8	0.0	35.8	
6/18/2019	-21.90	57			166	35.5	31.4	0.1	33.0	
	-11.81	49			153	34.0	31.8	0.3	34.0	Average for 8/9/16 to 8/9/17
	-14.80	51			160	34.3	31.9	0.2	33.6	Average for 8/10/17 to 8/29/18
	-21.94	49			164	34.1	31.6	0.1	34.3	Average for 8/30/18 to 6/18/19

Notes :
 InWC : Inches water column
 DegF : Degrees Fahrenheit
 SCFM : Standard temperature and pressure cubic feet per minute
 % : Percent by Volume

**TABLE 6
SOIL VAPOR EXTRACTION FIELD MONITORING DATA
BOZEMAN LANDFILL
BOZEMAN, MONTANA**

Updated: 11/19/2019 MFP

Date	Inlet Vacuum InWC	Inlet Temperature DegF	SVE Flow SCFM	CH4 %	CO2 %	O2 %	N2 %	Comment
8/9/2016								New Flare Startup
8/10/2016	-9.50			1.4	6.1	13.2	79.3	
8/12/2016	-49.64		216	2.0	6.5	15.1	76.4	
8/18/2016	-50.10		221	1.3	3.1	17.6	78.0	
8/22/2016			225	1.1	2.6	17.7	78.6	
8/23/2016	-50.00		228	1.1	3.0	17.9	78.0	
9/15/2016	-49.38			0.6	1.7	18.5	79.2	
10/12/2016	-50.00		234	0.6	1.6	19.3	78.5	
10/20/2016	-50.00		150	0.3	1.3	18.6	79.8	
10/25/2016	-50.00		149	0.4	1.5	18.9	79.2	
10/27/2016								
11/22/2016	-50.00		169	0.9	1.8	18.9	78.4	
12/14/2016				0.9	1.5	19.1	78.5	
12/19/2016	-50.00	43	168					
1/12/2017	-45.10	45.1	180	0.8	1.4	19.5	78.3	
1/18/2017	-45.00	44	179					
1/24/2017	-40.00	42	168					SVE vac setpt decr to 40 inWC
2/2/2017	-44.90	39	180	0.8	1.3	20.0	77.9	
2/16/2017	-45.00	45	167					
3/9/2017	-45.00	45	156					
3/21/2017	-45.00	49	156	1.1	1.4	19.3	78.2	
4/4/2017				0.7	1.2	19.3	78.8	
4/19/2017				0.6	1.2	19.2	79.0	
4/20/2017	-45.00	57	145					
5/9/2017	-45.00	56	151					
5/16/2017	-45.00	60	149	1.9	1.8	16.9	79.5	
5/31/2017	-45.00	68	148					
6/22/2017	-45.00	69	150	0.7	1.3	18.4	79.6	
7/17/2017	-45.00	74	148	0.7	1.3	19.4	78.6	
8/18/2017	-45.00	78	144	0.4	1.3	18.7	79.6	
10/4/2017	-45.00	58	153	0.4	1.2	19.0	79.4	
10/30/2017	-45.00	55	152	0.3	1.1	19.4	79.2	
11/15/2017	-45.00	45	157	0.3	1.1	19.1	79.5	
12/13/2017	-45.00	46	157	0.4	1.0	19.4	79.2	
12/29/2017	-45.00	42	158	0.6	1.2	19.4	78.8	
1/9/2018	-45.00	45	156					
1/25/2018	-45.00	47	157	1.1	1.2	18.9	78.8	
2/14/2018	-45.00	41	164	0.7	1.1	19.2	79	
3/26/2018	-40.00	46	169	0.4	0.8	19.7	79.1	
5/7/2018	-40.01	56	170	1.2	1.0	19.2	78.6	
5/24/2018	-40.00	61	175	1.3	1.1	19.1	78.5	PID - 0.9 ppm
6/20/2018	-40.00	67	176	1.2	1.2	18.8	78.8	
7/12/2018	-40.00	72	173	1.1	1.2	18.5	79.2	PID - 0.3 ppm
8/30/2018	-40.00	67	172	0.3	1.4	18.1	80.2	
9/19/2018	-40.00	62	175	0.1	0.9	19.1	79.9	
10/15/018	-40.00	57	176	0.0	0.5	20.1	79.4	PID - 0.7 ppm
11/12/2018	-40.00	50	179	0.0	0.7	20.0	79.3	
12/18/2018	-40.20	41	180	0.7	1.0	19.8	78.5	
1/15/2019								
2/11/2019	-40.00	38	185					
2/26/2019	-40.00	37	185					
3/11/2019	-40.10	45	190.3	0.0	0.7	20.1	79.2	
4/29/2019	-40.00	43	178.2	0.4	0.8	19.3	79.5	
5/15/2019	-40.00	55	178.2	0.7	1.0	20.0	78.3	
6/18/2019	-40.00	61	206.5	0.5	0.8	19.3	79.4	
	-50		144	0.0	0.5	13.2		Minimum
	-10		234	2.0	6.5	20.1		Maximum
	-45		169	0.7	1.3	19.1		Median
	-44		171	0.7	1.6	18.7		Average

Notes :
 InWC : Inches water column
 DegF : Degrees Fahrenheit
 SCFM : Standard temperature and pressure cubic feet per minute
 % : Percent by Volume

File : R:\PROJECTS\Bozeman_Landfill\Corrective Measures - System A Operation\A-LFG Wells Workbook: 2019 T-05 & 06 New Flare

**TABLE 7
SUMMARY OF SVE RADIUS OF INFLUENCE TEST RESULTS**

SVE WELL BEING TESTED	SVE WELL OPERATION PARAMETERS	VACUUM MONITORING LOCATION	DIRECTION FROM SVE WELL	DISTANCE FROM SVE WELL	PRESSURE MEASUREMENT (highest stable value) ¹	Normalized Pressure	Estimated or Inferred ROI	Normalized vacuum at SVE well (10% rule of thumb)	
Listed from west to east	(CH4 methane %, CFM cubic ft/min, pressure in inches water column)	(Listed from West to East)		(feet)	(inches water column)				
SVE-3		BSV-12S	W	334	-0.004	0.001			
		BSV-12M	W	334	-0.006	0.001			
	CH4: 0	BSV-12D	W	334	-0.010	0.001			
	CFM: 8	BLG-5	W	46	0.000				
	Pressure: -7	SVE-10	E	116	0.03				
	Valve Open: 4%	SVE-4	E	173	0.02				
		BSV-11S	E	184	-0.005	0.001			
		BSV-11D	E	184	-0.01	0.001			
		BSV-15	E	228	-0.06	0.009	ROI <184	0.014	
		BLG-10	E	244	-0.03	0.004			
June 2019 Testing									
Valve Open: 4	SVE-10	E	116	0.000					
Valve Open: 100%	SVE-10	E	116	0.000					
Incr. Orifice Plate Size	BLG-5	W	46	0.000					
CFM: 29	SVE-10	E	116	0.000			ND		
Final Setting	BLG-5	W	46	0.000					
CH4: 0									
CFM: 16									
Pressure: -12									
Valve Open: 20%									
O-plate: 1.4"									
SVE-10	CH4: 0	SVE-3	W	115	0.010	0.000			
	CFM: 7	SVE-4	E	56	0.004	0.000			
	Pressure: -22	BSV-11S	E	69	0.000	0.000			
	Valve Open: 5%	BSV-11D	E	69	0.000	0.000			
		BSV-15	E	111	-0.046	0.002	ROI <111	0.005	
	June 2019 Testing								
	Incr. Orifice Plate Size	SVE-3	W	115	0.000				
	CFM: 16	SVE-4	E	56	0.000				
		BSV-11S	E	69	0.000				
		BSV-11D	E	69	0.000				
	BSV-15	E	111	0.010			ND		
Final Setting									
CH4: 0									
CFM: 19									
Pressure: -38									
Valve Open: 100%									
O-plate: 1.4"									
SVE-4	CH4: 0	SVE-10	W	56	0.015				
	CFM: 10	BSV-11S	E	14	-0.038	0.002		0.008	
	Pressure: -16	BSV-11D	E	14	-0.13	0.008		0.004	
	Valve Open: 5%	BSV-15	E	55	-0.06	0.004		0.002	
		BLG-10	E	73	-0.03	0.002	ROI = 33.5 feet	0.006	
	June 2019 Testing								
	Incr. Orifice Plate Size	SVE-10	W	56	0.000				
	CFM: 18	BSV-15	E	55	-0.015	0.001	ROI <55	0.006	
		SVE-11	E	87	0.000				
	CFM: 35	SVE-10	W	56	0.000				
	BSV-15	E	55	-0.045	0.003	ROI <87			
	SVE-11	E	87	-0.013	0.001				
Final Setting									
CH4: 0									
CFM: 19									
Pressure: -15									
Valve Open: 16%									
O-plate: 1.4"									
SVE-11	CH4: 0	SVE-4	W	87	0.024				
	CFM: 18	BSV-11S	W	75	-0.005	0.000		0.000	
	Pressure: -39	BSV-11D	W	75	-0.010	0.000		0.000	
	Valve Open: 100%	BSV-15	W	35	-0.060	0.002	Inferred ROI=35	0.002	
		BLG-10	W	20	-0.030	0.001		0.001	
		SVE-5	E	85	-0.020	0.001	ROI - 5.5	0.003	
	June 2019 Testing								
	Final Setting	SVE-4	W	144	-0.020	0.001			
	CH4: 0	SVE-5	E	85	-0.005	0.000	ROI <144	0.003	
	CFM: 23								
Pressure: -38									
Valve Open: 100%									
O-plate: 1"									
SVE-5	CH4: 0	SVE-11	W	86					
	CFM: 17	SVE-12	E	86	0.15		Inferred ROI=86		
	Pressure: -41								
	Valve Open: 100%								
	O-plate: 0.5								
June 2019 Testing									
Final Setting	SVE-11	W	86	-0.019	0.000				
CH4: 0	SVE-12	E	86	-0.019	0.000	ROI <86	0.002		
CFM: 17									
Pressure: -41									
Valve Open: 100%									
O-plate: 0.5									
SVE-12	CH4: 0	SVE-5	W	85	0.015				
	CFM: 17	SVE-6	E	85	-0.040	0.001			
	Pressure: -40	SVE-13	E	172	-0.19	0.005	ROI <85	0.003	
	Valve Open: 50%								
	June 2019 Testing								
	Valve Open: 50%	SVE-5	W	85	-0.010	0.000			
		SVE-6	E	85	-0.010	-0.020			
	Valve Open: 75	SVE-5	W	85	0.000				
	Final Setting	SVE-6	E	85	-0.005	-0.002	ROI <85	0.003	
	CH4: 0								
CFM: 17									
Pressure: -39									
Valve Open: 50%									
O-plate: 0.5									
SVE-6	CH4: 2.3	SVE-12	W	85	-0.028	0.001			
	CFM: 16	SVE-13	E	87	-0.58	0.015	ROI ≥ 85	0.003	
	Pressure: -40						East Direction Only		
	Valve Open: 100%								
	June 2019 Testing								
	Valve Open: 100%	SVE-12	W	85	-0.013	0.000			
		SVE-13	E	87	-0.017	0.000			
	Valve Open: 10	SVE-12	W	85	-0.01	0.000			
		SVE-13	E	87	-0.01	0.000	ROI <85	0.003	
	Final Setting								
CH4: 4									
CFM: 12									
Pressure: -39									
Valve Open: 15%									
O-plate: 0.5									

**TABLE 7
SUMMARY OF SVE RADIUS OF INFLUENCE TEST RESULTS**

SVE WELL BEING TESTED	SVE WELL OPERATION PARAMETERS	VACUUM MONITORING LOCATION	DIRECTION FROM SVE WELL	DISTANCE FROM SVE WELL	PRESSURE MEASUREMENT (highest stable value) ¹	Normalized Pressure	Estimated or Inferred ROI	Normalized vacuum at SVE well (10% rule of thumb)			
Listed from west to east	(CH4 methane %, CFM cubic ft/min, pressure in inches water column)	(Listed from West to East)		(feet)	(inches water column)						
SVE-13	CH4: 0	SVE-6	W	86	-0.190	0.021	ROI ≥86	0.021			
	CFM: 8	SVE-2	E	85	-0.008	0.001		0.001			
	Pressure: -9	SVE-2	E	85	-0.023	0.003		0.003			
	Valve Open: 7%							0.011			
	June 2019 Testing										
	Valve Open: 7%	SVE-6	W	86	0.010			ROI <85	0.014		
	Valve Open: 100%	SVE-2	E	85	0.013						
		SVE-6	W	86	-0.005	0.001					
		SVE-2	E	85	-0.005	0.001					
		<u>Final Setting</u>									
	CH4: 1										
	CFM: 7										
	Pressure: -7										
	Valve Open: 5%					0.001					
	O-plate: 0.5										
SVE-2	CH4: 0	SVE-6	W	172	-0.015	0.001	Inferred ROI=35 Inferred ROI=35 Inferred ROI=43 Inferred ROI=43	0.001			
	CFM: 6	SVE-13	W	86	-0.019	0.001		0.001			
	Pressure: -15	BSV-10S	E	35	-0.017	0.003		0.003			
	Valve Open: 3%	BSV-10M	E	35	-0.050	0.006		0.006			
		BSV-10D	E	35	-0.090	0.005		0.005			
		BSV-14S	E	43	-0.080	0.005		0.005			
		BSV-14D	E	43	-0.080	0.002		0.002			
		SVE-1	E	60	-0.035	0.002		0.002			
		BLG-4 New	E	70	-0.027			ROI = 6	0.007		
									0.001		
SVE-1	CH4: 6	SVE-2	W	60	-0.008	0.001	ROI=25	0.001			
	CFM: 8	BSV-10S	W	28	-0.012	0.001		0.001			
	Pressure: -14	BSV-10M	W	28	-0.079	0.006		0.006			
	Valve Open: 2%	BSV-10D	W	28	-0.103	0.007		0.007			
		BSV-14S	W	12	-0.145	0.010					
		BSV-14D	W	12	-0.186	0.013		0.013			
		BLG-4 Old	E	10	-0.004	0.000					
		BLG-4 New	E	15	-0.060	0.004		0.004			
		SVE-14	E	105	0.004	0.000		0.000			
									0.007		
June 2019 Testing											
CFM: 8	SVE-2	W	60	-0.025	0.002	ROI <60	0.007				
CFM: 4	SVE-14	E	105	0.000							
	SVE-2	W	60	-0.005	0.000						
	SVE-14	E	105	0.000							
	<u>Final Setting</u>										
	CH4: 14										
	CFM: 6										
	Pressure: -15										
	Valve Open: 1%										
	O-plate: 0.4										
SVE-14	CH4: 2	BLG-4new	W	95	-0.050	0.002	Inferred ROI=95	0.003			
	CFM: 4	SVE-7	E	105	0.050		ROI <95				
	Pressure: -30										
	Valve Open: 6%										
	June 2019 Testing										
		SVE-1	W	105	0.040		Inferred ROI=105				
		BLG-4 New	W	95	0.009		ND				
		SVE-7	E	105	0.020						
		<u>Final Setting</u>									
		CH4: 3									
	CFM: 4										
	Pressure: -15										
	Valve Open: 1										
	O-plate: 0.5										
SVE-7	CH4: 0	SVE-14	W	105	0.007		ND				
	CFM: 7	SVE-15	E	105							
	Pressure: -22										
	Valve Open: 4%										
	June 2019 Testing										
	CFM: 6.6	SVE-14	W	105	0.000		ND				
	CFM: 8.7	SVE-15	E	105	0.000						
		SVE-14	W	105	0.000						
		SVE-15	E	105	0.000						
		<u>Final Setting</u>									
	CH4: 2										
	CFM: 5										
	Pressure: -22										
	Valve Open: 1%										
	O-plate: 0.5										
SVE-15	CH4: 0	SVE-7	W	105	0.050		Inferred ROI=105	0.004			
	CFM: 5	BLG-3	E	92	0.000						
	Pressure: -26	SVE-8	E	105	0.011						
	Valve Open: 11%	SVE-8	E	105	-0.040	0.002	ROI <105				
	June 2019 Testing										
	CFM: 5.3	SVE-7	W	105	-0.015	0.001	Inferred ROI=105 ROI <105		0.004		
	CFM: 9.0	SVE-8	E	105	-0.110	0.005					
		SVE-7	W	105	-0.020	0.001					
		SVE-8	E	105	0.090						
		<u>Final Setting</u>									
	CH4: 0										
	CFM: 6										
	Pressure: -23										
	Valve Open: 11%										
	O-plate: 1										
SVE-8	CH4: 0	SVE-15	W	105	0.000		ROI <18	0.007			
	CFM: 4	BLG-3	W	12	0.000						
	Pressure: -14	BSV-13S	E	18	-0.015	0.001					
	Valve Open: 9%	BSV-13M	E	18	-0.020	0.001					
		BSV-13D	E	18	-0.018	0.001					
		BSV-9S	E	69	-0.003	0.000					
		BSV-9D	E	69	-0.015	0.001					
		SVE-16	E	105	0.000						
	June 2019 Testing										
	CFM: 6.5	SVE-15	W	105	0.000				ROI <105	0.005	
CFM: 11.9	SVE-15	W	105	-0.008	0.000						
CFM: 12.9	SVE-15	W	105	-0.010	0.001						
	<u>Final Setting</u>										
	CH4: 0										
	CFM: 7										
	Pressure: -20										
	Valve Open: 9%										
	O-plate: 0.5										
SVE-16	CH4: 0	SVE-8	W	105	-0.040	0.001	Inferred ROI=105	0.003			
	CFM: 15.3	BSV-13S	W	88	-0.024	0.001					
	Pressure: -38	BSV-13M	W	88	-0.030	0.001					
	Valve Open: 100%	BSV-13D	W	88	-0.030	0.001					
	O-plate: 0.75	BSV-9S	W	36	-0.040	0.001	Inferred ROI=36				
		BSV-9D	W	36	-0.090	0.002	Inferred ROI=36				
	SVE-9	E	105	-0.040	0.001	ROI <36					
SVE-9	CH4: 0	BSV-13S	W	195	0.018		ROI <105	0.003			
	CFM: 6.9	BSV-13M	W	195	0.016						
	Pressure: -37.1	BSV-13D	W	195	0.020						
	Valve Open: 100%	BSV-9S	W	141	-0.007	0.000					
	O-plate: 0.75	BSV-9D	W	141	-0.017	0.000					
		SVE-16	W	105	-0.007	0.000					

Key
 1) In BSV- soil gas probes, generally, the greatest negative pressure between the October 2018 and January 2019 pressure measurements/testing is presented
 Highlighted area is data used for rule of thumb ROI calculation that could be graphed
 Calculated ROI using rule of thumb method
 Inferred Radius of Influence based on vacuum response of 0.04 inWC or more
 ND : ROI Not Determined

Table 9
Total Air Flow Through Air Injection Wells
Bozeman Landfill
Bozeman, Montana

Monitoring Date	All AI- Wells Open?	Total Air Flow (CFM)	Comments
12/14/2016	Yes	128.6	
Nov-Dec/2017			Well heads repaired to stop leakage
1/18/2017	Yes	91.9	
3/9/2017	Yes	129.2	Compressor service on 3/2/17
5/16/2017	Yes	261.6	Reset valves after AI- well maintenance
8/11/2017	Yes	272.5	
1/16/2018	Yes	293.6	
3/8/2018	Yes	350.2	
7/12/2018	Yes	285.0	
11/15/2018	Yes	318.0	
4/1/2019	Yes	320.5	
6/6/2019	Yes	291.8	Reset valves after SVE ROI Testing

Notes : CFM: Cubic Feet per Minute

File Location: R:\PROJECTS\Bozeman_Landfill\Corrective Measures - System A Operation\Air Injection Wells\1-AI- Well Monitoring Database Workbook: 2019 T-09

Table 10
Air Flow Through Injection Wells on June 6, 2019
Bozeman Landfill
Bozeman, Montana

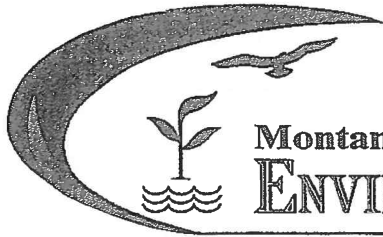
Air Injection Well	Monitoring Date	Calculated Flow (CFM)
AI-1	6/6/2019	32.3
AI-2	6/6/2019	33.7
AI-3	6/6/2019	32.1
AI-4	6/6/2019	31.8
AI-5	6/6/2019	31.5
AI-5deep	6/6/2019	33.3
AI-6shallow	6/6/2019	32.2
AI-6mid	6/6/2019	32.3
AI-6deep	6/6/2019	32.7
Total Air Flow (CFM)		291.8

Note : CFM: Cubic Feet per Minute

File Location: R:\PROJECTS\Bozeman_Landfill\Corrective Measures - System A Operation\Air Injection Wells\1-AI- Well Monitoring Database Workbook: 2019 T-10

APPENDIX A

DEQ CORRESPONDENCE



Montana Department of
ENVIRONMENTAL QUALITY

Steve Bullock, Governor
Tracy Stone-Manning, Director

P. O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: www.deq.mt.gov

June 6, 2014

RECEIVED

Mr. Craig Woolard, Ph.D., P.E.
Director of Public Works
City of Bozeman
P.O. Box 1230
Bozeman, MT 59771

JUN 10 2014

TETRA TECH, INC
HELENA, MT

RE: **CITY OF BOZEMAN LANDFILL – GALLATIN COUNTY – LICENSE #196**
NOTIFICATION OF EXCEEDANCE OF GROUNDWATER PROTECTION STANDARD

Dear Mr. Woolard:

The Solid Waste Program has reviewed the May 30, 2014, letter which serves as formal notification from the City of Bozeman, of the groundwater protection standard exceedance as defined in the Administrative Rules of Montana (ARM) 17.50.1307(8)(a). The exceedance was detected in MW-20 for Tetrachloroethene (PCE) at a concentration of 10.6 ug/l in March 2014, and in subsequent confirmation sampling in May 2014, at 9.4 ug/l. As defined in Circular DEQ-7, Montana Numeric Water Quality Standards, the groundwater standard for PCE is 5.0 ug/l. As stated in ARM 17.50.1307(7)(a)(iv), the owner or operator shall initiate an assessment of corrective measures as required by ARM 17.50.1308 within 90 days, which is August 28, 2014.

I look forward to working with you and your consultants during this process. If you have any questions or comments regarding this review, please contact me.

Sincerely,

John Collins
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Kirk Miller, Tetra Tech, Inc., 303 Irene Street, Helena, MT 59601

File: Gallatin Co.\City of Bozeman Class IILicense #196\Groundwater Monitoring

APPENDIX B
GROUNDWATER SAMPLING LOGS
MARCH 2019, SEPTEMBER 2019

GROUNDWATER SAMPLING LOG

1-7-7-011 sampling log.doc

Project: Bozeman Landfill Date: 3/27/18 @ 1420 Station No. LF-2
 Personnel: MFP Weather: NW Breeze, ~45°F, snow melt
 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 13.25 = 6.35 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
6.35 ft. water in well x _____ gal./ft. * = one casing volume 4.1 gals. x 3 = purge volume 12.3 gals.
 * 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	<u>4.1</u>	<u>9.21</u>	<u>7.41</u>	<u>537</u>	<u>121</u>	-
	<u>8.2</u>	<u>8.90</u>	<u>7.31</u>	<u>538</u>	<u>119</u>	
	<u>12.3</u>	<u>8.88</u>	<u>7.26</u>	<u>540</u>	<u>117</u>	
	<u>12.8</u>	<u>9.10</u>	<u>7.19</u>	<u>539</u>	<u>123</u>	<u>10.36</u> Downhole

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailer Spigot Grab Other _____
 Sample Type: Natural Duplicate Other _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

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

Meter Water level <u>YSI-556</u> pH _____ SC _____ ORP _____ DO _____	Model No. <u>YSI-556</u>	Calibration Date <u>3/27/18</u>	Decontamination Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Potable H ₂ O: Yes <input type="checkbox"/> No <input type="checkbox"/> DI water: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/> Steam: Yes <input type="checkbox"/> No <input type="checkbox"/> Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
--	-----------------------------	------------------------------------	---	---

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill

Date: 3/27/18 @ 1030

Station No. LF-3

Personnel: MFP

Weather: Calm, Cloudy, melting snow N/A/A/A/A
~35°F

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

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

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

Well Depth (ft. below measuring point): 37.5 - Depth to Water 13.12 = 24.38 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____

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

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): 1 gal / 25 sec = 2.4 gpm

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
<u>1005</u>	<u>Start Pumping</u>					
<u>1015</u>	<u>16</u>	<u>9.84</u>	<u>7.32</u>	<u>691</u>	<u>242</u>	<u>9.36</u>
<u>1020</u>	<u>36</u>	<u>9.87</u>	<u>7.21</u>	<u>694</u>	<u>237</u>	<u>8.70</u>
<u>1025</u>	<u>48</u>	<u>9.88</u>	<u>7.16</u>	<u>695</u>	<u>234</u>	<u>8.50</u>

Flow thru cell

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

WELL SAMPLING

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

Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter	Model No.	Calibration Date
Water level	<u>431-556</u>	<u>3/27/18</u>
pH	<u>1</u>	<u>1</u>
SC	<u>1</u>	<u>1</u>
ORP	<u>1</u>	<u>1</u>
DO	<u>1</u>	<u>1</u>

Decontamination			
Liquinox:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Potable H ₂ O:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Steam:	Yes <input type="checkbox"/> No <input type="checkbox"/>
DI water:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Nitric Acid:	Yes <input type="checkbox"/> No <input type="checkbox"/>

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill

Date: 3/27/18 @ 1520

Station No. MW-12

Personnel: MFP

Weather: NW Breeze, ~45°F, Pth cloudy, snowmelt

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): 65.8 - Depth to Water 55.75 = 10.05 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____

10.05 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
_____	<u>1.6</u>	<u>12.08</u>	<u>6.75</u>	<u>1109</u>	<u>-59.9</u>	<u>-</u>
_____	<u>3.2</u>	<u>12.23</u>	<u>6.50</u>	<u>1151</u>	<u>-46.2</u>	<u>-</u>
_____	<u>4.8</u>	<u>12.24</u>	<u>6.45</u>	<u>1152</u>	<u>-20.5</u>	<u>-</u>
_____	<u>5.0</u>	<u>12.36</u>	<u>6.31</u>	<u>1140</u>	<u>2.6</u>	<u>0.42 Downhole</u>

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input checked="" type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter 431-SSG Model No. 3/27/18 Calibration Date

Water level _____

pH _____

SC _____

ORP _____

DO _____

Decontamination

Liquinox: Yes No Scrub: Yes No

Potable H₂O: Yes No Steam: Yes No

DI water: Yes No Nitric Acid: Yes No

Comments: Clear water w/ black algae/growth

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/18 @ 1520 Station No. MW-17
 Personnel: MFP Weather: NW Breeze, ~45°F, melting snow

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

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

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

Well Depth (ft. below measuring point): 85.0 - Depth to Water 77.45 = 7.55 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____

7.55 ft. water in well x _____ gal/ft* = one casing volume 1.25 gals. x 3 = purge volume 3.75 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
_____	<u>1.25</u>	<u>9.45</u>	<u>7.26</u>	<u>780</u>	<u>143</u>	<u>-</u>
_____	<u>2.5</u>	<u>9.43</u>	<u>7.18</u>	<u>691</u>	<u>138</u>	<u>-</u>
_____	<u>2.8</u>	<u>9.41</u>	<u>7.17</u>	<u>654</u>	<u>135</u>	<u>10.5</u> 1/2 bailers
<u>Decide to sample due to bailing down to 1/2 bailers</u>						

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter Model No. YSI-556 Calibration Date 3/27/18

Water level _____
 pH _____
 SC _____
 ORP _____
 DO _____

Decontamination

Liquinox: Yes No Scrub: Yes No
 Potable H₂O: Yes No Steam: Yes No
 DI water: Yes No Nitric Acid: Yes No

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/18 @ 1200 Station No. MW-20
 Personnel: MFP Weather: NW Breeze, ~40°F, melting snow
 Well Locked? Yes [] No [] Note Any Problems With Condition of Well: _____
 Casing Dia. & Type: 2-inch PVC [] 4-inch PVC [] Other _____ Measuring Point: Top of PVC, north side [] Other _____
 Aquifer: Tertiary sediments (sand, gravel, and clayey silt)
 Well Depth (ft. below measuring point): 65.0 - Depth to Water 54.76 = 10.24 ft. water in well

WELL EVACUATION

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

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

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): Slow recovery ∴ sampled early (< 3.4 gal)

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO	
	<u>0.8</u>	<u>9.40</u>	<u>7.25</u>	<u>1063</u>	<u>62</u>	<u>-</u>	Partial Bailer
	<u>1.2</u>	<u>9.17</u>	<u>7.08</u>	<u>1053</u>	<u>69</u>	<u>-</u>	" "
	<u>2.0</u>	<u>8.84</u>	<u>7.01</u>	<u>1048</u>	<u>82</u>	<u>-</u>	
	<u>2.2</u>	<u>9.25</u>	<u>6.96</u>	<u>1052</u>	<u>87.4</u>	<u>7.90</u>	Downhole

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

WELL SAMPLING

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

Sample Type: Natural [] Duplicate [] Other _____

Sample Collected	Parameters	Sample Container	Preservative
Yes [] No []	VOCs	3 - 40 ml vials	HCl
Yes [] No []	Metals: dissolved [] or total []	250 ml poly	HNO ₃
Yes [] No []	Nitrate as N	250 ml poly	H ₂ SO 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	<u>YSI-556</u>	<u>3/27/18</u>
pH	<u>/</u>	<u>/</u>
SC	<u>/</u>	<u>/</u>
ORP	<u>/</u>	<u>/</u>
DO	<u>/</u>	<u>/</u>

Decontamination			
Liquinox:	Yes [] No []	Scrub:	Yes [] No []
Potable H ₂ O:	Yes [] No []	Steam:	Yes [] No []
DI water:	Yes [] No []	Nitric Acid:	Yes [] No []

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 3/27/18 01100 Station No. MW-18
 Personnel: MFP Weather: Calm, Ptlly sunny, snowmelt
 Well Locked? Yes No Note Any Problems With Condition of Well: _____
 Casing Dia. & Type: 2-inch PVC 4-inch PVC Other _____ Measuring Point: Top of PVC, north side Other _____
 Aquifer: Tertiary sediments (sand, gravel, and clayey silt)
 Well Depth (ft. below measuring point): 59.1 - Depth to Water 50.1 ^{47.79} = 11.31 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
11.31 ft. water in well x _____ gal./ft. * = one casing volume 1.8 gals. x 3 = purge volume 5.4 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	1.8	13.39	6.83	1930	-51	6.0
	3.6	13.30	6.48	1937	-87	2.71
	5.5	13.35	6.49	1934	-77	4.6
	6.0	13.06	6.37	1949	-105.7	0.46

↓
↓
↓
Downhole

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailor Spigot Grab Other: _____
 Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter YSI-556 Model No. 3/27/18 Calibration Date
 Water level _____
 pH _____
 SC _____
 ORP _____
 DO _____

Decontamination
 Liquinox: Yes No Scrub: Yes No
 Potable H₂O: Yes No Steam: Yes No
 DI water: Yes No Nitric Acid: Yes No

Comments: - water is lt. gray - milky in appearance
Duplicate Sample (DUP) Collected at 1110

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1140 Station No. LF-2
 Personnel: SAM MFP Weather: Calmer, 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): 19.6 - Depth to Water 14.00 = 5.6 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____

5.6 ft. water in well x _____ gal./ft. * = one casing volume 3.7 gals. x 3 = purge volume 11.1 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	<u>3.7</u>	<u>10.93</u>	<u>7.31</u>	<u>636</u>	<u>162.3</u>	<u>10.70</u>
	<u>7.4</u>	<u>10.73</u>	<u>7.20</u>	<u>639</u>	<u>166.3</u>	<u>10.58</u>
	<u>11.1</u>	<u>10.94</u>	<u>7.20</u>	<u>645</u>	<u>162.8</u>	<u>10.48</u>
	<u>11.6</u>	<u>10.44</u>	<u>7.18</u>	<u>642</u>	<u>164.2</u>	<u>10.42 Downhole</u>

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter	Model No.	Calibration Date	Decontamination	
Water level	<u>Water Line</u>		Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH	<u>YSI-556</u>	<u>10/16/18</u>	Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC	<u> </u>	<u> </u>	DI water: Yes <input type="checkbox"/> No <input type="checkbox"/>	Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP	<u> </u>	<u> </u>		
DO	<u> </u>	<u> </u>		

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1050 Station No. LF-3
 Personnel: MFP SAM 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): 37.5 - Depth to Water 13.73' = 23.77 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
23.8 ft. water in well x _____ gal./ft. * = one casing volume 15.5 gals. x 3 = purge volume 46.5 gals.
 * 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
<u>1045</u>		<u>1 gal / 26 sec = 2.3 gpm</u>				
<u>1052</u>	<u>16</u>	<u>9.91</u>	<u>6.83</u>	<u>751</u>	<u>198.7</u>	<u>9.68</u>
<u>1100</u>	<u>32</u>	<u>9.94</u>	<u>6.86</u>	<u>752</u>	<u>185.3</u>	<u>9.56</u>
<u>1107</u>	<u>47</u>	<u>9.97</u>	<u>6.92</u>	<u>751</u>	<u>174.4</u>	<u>9.46</u>

Flo thru cell

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailor Spigot Grab Other _____
 Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter	Model No.	Calibration Date	Decontamination	
Water level	<u>Water Line</u>		Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH	<u>YSI-556</u>	<u>10/16/18</u>	Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC	<u> </u>	<u> </u>	DI water: Yes <input type="checkbox"/> No <input type="checkbox"/>	Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP	<u> </u>	<u> </u>		
DO	<u> </u>	<u> </u>		

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1400 Station No. MW-12
 Personnel: MFP SAM 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): 65.8 - Depth to Water 56.13 = 9.67 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____

9.67 ft. water in well x _____ gal./ft. * = one casing volume 1.6 gals. x 3 = purge volume 4.8 gals.

* 2" well = 0.163 gal./ft. 4" well = 0.653 gal./ft. 6" well = 1.469 gal./ft. 8" well = 2.611 gal./ft. Well C feet in diameter = 5.875 x C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	<u>1.6</u>	<u>12.78</u>	<u>6.68</u>	<u>1023</u>	<u>-45.4</u>	<u>2.97</u>
	<u>3.2</u>	<u>12.43</u>	<u>6.59</u>	<u>1010</u>	<u>-32.9</u>	<u>4.0</u>
	<u>4.8</u>	<u>12.76</u>	<u>6.59</u>	<u>1012</u>	<u>-21.3</u>	<u>4.02</u>
	<u>5.0</u>	<u>12.27</u>	<u>6.44</u>	<u>1009</u>	<u>-19.1</u>	<u>0.92 downhole</u>

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter	Model No. <u>Water Line</u>	Calibration Date <u>10/16/18</u>	Decontamination
Water level	<u>451-SS6</u>		Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH			Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC			DI water: Yes <input type="checkbox"/> No <input type="checkbox"/> Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP			
DO			

Comments: DUP Collected (900 time)

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1300 Station No. MW-17
 Personnel: MFP SAM 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): 85.0' - Depth to Water 76.57 = 8.43 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
8.43 ft. water in well x _____ gal./ft* = one casing volume 1.4 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
_____	<u>1.4</u>	<u>9.86</u>	<u>7.15</u>	<u>1248</u>	<u>155.8</u>	<u>11.3</u>
_____	<u>2.8</u>	<u>9.85</u>	<u>7.13</u>	<u>1184</u>	<u>155.9</u>	<u>11.67</u>
_____	<u>4.2</u>	<u>9.86</u>	<u>7.24</u>	<u>1122</u>	<u>150.6</u>	<u>11.79</u>

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailor Spigot Grab Other: _____
 Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

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

Meter	Model No.	Calibration Date	Decontamination	
Water level	<u>Water Line</u>		Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH	<u>YSI-556</u>	<u>10/16/18</u>	Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC			DI water: Yes <input type="checkbox"/> No <input type="checkbox"/>	Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP				
DO				

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1330 Station No. MW-18
 Personnel: MFP SAM 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): 59.1 - Depth to Water 47.44 = 11.66 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
11.66 ft. water in well x _____ gal./ft * = one casing volume 1.9 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	<u>1.9</u>	<u>14.84</u>	<u>6.81</u>	<u>1761</u>	<u>-25.8</u>	<u>3.56</u>
	<u>3.85</u>	<u>15.21</u>	<u>6.79</u>	<u>1858</u>	<u>-48.6</u>	<u>2.22</u>
<u>Down hole</u>	<u>5.77</u>	<u>13.52</u>	<u>6.64</u>	<u>1795</u>	<u>-63.6</u>	<u>0.83</u>

Bailing 1/3 bailers so allow recharge & sample
Downhole

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailer Spigot Grab Other: _____
 Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

Laboratory: Pace Analytical Services, Inc., Billings, Montana

Chain-of-Custody: Yes No

Meter	Model No.	Calibration Date	Decontamination	
Water level	<u>Water Line</u>	<u>10/16/18</u>	Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH	<u>YSI-556</u>		Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC			DI water: Yes <input type="checkbox"/> No <input type="checkbox"/>	Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP				
DO				

Comments: _____

GROUNDWATER SAMPLING LOG

Project: Bozeman Landfill Date: 10/16/18 @ 1220 Station No. MW-20
 Personnel: MFP & SAM 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): 65.0 - Depth to Water 54.12 = 10.88 ft. water in well

WELL EVACUATION

Evacuation Method: Submersible Pump Disposable bailer Spigot Other _____
10.88 ft. water in well x _____ gal./ft* = one casing volume 1.8 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 C²

Pumping rate (gpm): _____

EVACUATION DATA

Time	Cumulative Gallons	Temp	pH	SC	ORP	DO
	<u>18</u>	<u>9.8</u>	<u>7.17</u>	<u>1111</u>	<u>159.4</u>	<u>9.74</u>
	<u>Bailing 1/2 bailers</u>					
	<u>2.0 Allow recharge then sample</u>					
	<u>2.1</u>	<u>9.49</u>	<u>6.99</u>	<u>1053</u>	<u>169.3</u>	<u>8.06</u> Downhole

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

WELL SAMPLING

Sampling Method: Submersible Pump Disposable Polyethylene Bailer Spigot Grab Other: _____
 Sample Type: Natural Duplicate Other: _____

Sample Collected	Parameters	Sample Container	Preservative
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	VOCs	3 - 40 ml vials	HCl
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Metals: dissolved <input type="checkbox"/> or total <input type="checkbox"/>	250 ml poly	HNO ₃
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Nitrate as N	250 ml poly	H ₂ SO ₄
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	pH, SC, sulfate, chloride	250 ml poly	None
Yes <input type="checkbox"/> No <input type="checkbox"/>			
Yes <input type="checkbox"/> No <input type="checkbox"/>			

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

Meter	Model No.	Calibration Date	Decontamination	
Water level	<u>Water Line</u>		Liquinox: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Scrub: Yes <input type="checkbox"/> No <input type="checkbox"/>
pH	<u>YSI-SS6</u>	<u>10/16/18</u>	Potable H ₂ O: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steam: Yes <input type="checkbox"/> No <input type="checkbox"/>
SC			DI water: Yes <input type="checkbox"/> No <input type="checkbox"/>	Nitric Acid: Yes <input type="checkbox"/> No <input type="checkbox"/>
ORP				
DO				

Comments: _____

APPENDIX C

LABORATORY REPORTS

MARCH 2019, SEPTEMBER 2019

April 06, 2018

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

RE: Project: 114-710326D.200
Pace Project No.: 10425293

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-710326D.200

Pace Project No.: 10425293

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-710326D.200

Pace Project No.: 10425293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10425293001	LF-3	Water	03/27/18 10:30	03/28/18 10:00
10425293002	MW-18	Water	03/27/18 11:00	03/28/18 10:00
10425293003	MW-20	Water	03/27/18 12:00	03/28/18 10:00
10425293004	LF-2	Water	03/27/18 14:20	03/28/18 10:00
10425293005	MW-17	Water	03/27/18 15:20	03/28/18 10:00
10425293006	MW-12	Water	03/27/18 16:20	03/28/18 10:00
10425293007	DUP	Water	03/27/18 11:10	03/28/18 10:00
10425293008	Trip Blank	Water	03/27/18 00:00	03/28/18 10:00

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326D.200

Pace Project No.: 10425293

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10425293001	LF-3	EPA 8260B	AEZ	61	PASI-M
10425293002	MW-18	EPA 8260B	AEZ	61	PASI-M
10425293003	MW-20	EPA 8260B	AEZ	61	PASI-M
10425293004	LF-2	EPA 8260B	AEZ	61	PASI-M
10425293005	MW-17	EPA 8260B	AEZ	61	PASI-M
10425293006	MW-12	EPA 8260B	AEZ	61	PASI-M
10425293007	DUP	EPA 8260B	AEZ	61	PASI-M
10425293008	Trip Blank	EPA 8260B	AEZ	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200

Pace Project No.: 10425293

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: April 06, 2018

General Information:

8 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 530257

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

- DUP (Lab ID: 10425293007)
 - Bromomethane
- LCS (Lab ID: 2878223)
 - Bromomethane
- LF-2 (Lab ID: 10425293004)
 - Bromomethane
- LF-3 (Lab ID: 10425293001)
 - Bromomethane
- MS (Lab ID: 2878224)
 - Bromomethane
- MSD (Lab ID: 2878225)
 - Bromomethane
- MW-12 (Lab ID: 10425293006)
 - Bromomethane
- MW-17 (Lab ID: 10425293005)
 - Bromomethane
- MW-18 (Lab ID: 10425293002)
 - Bromomethane
- MW-20 (Lab ID: 10425293003)
 - Bromomethane

QC Batch: 530362

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

- LCS (Lab ID: 2878697)
 - Tetrahydrofuran
- MS (Lab ID: 2878698)
 - Tetrahydrofuran
- MSD (Lab ID: 2878699)
 - Tetrahydrofuran

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200

Pace Project No.: 10425293

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: April 06, 2018

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: 530257

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10424458005

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

- MS (Lab ID: 2878224)
 - Acetone
 - Tetrahydrofuran
 - n-Hexane
- MSD (Lab ID: 2878225)
 - Tetrahydrofuran
 - n-Hexane

QC Batch: 530362

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10425707008

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

- MS (Lab ID: 2878698)
 - Tetrahydrofuran
 - n-Hexane
- MSD (Lab ID: 2878699)
 - Tetrahydrofuran
 - n-Hexane

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: LF-3 **Lab ID: 10425293001** Collected: 03/27/18 10:30 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 02:36	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 02:36	107-13-1	
Benzene	<0.13	ug/L	0.50	0.13	1		04/03/18 02:36	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 02:36	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 02:36	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 02:36	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 02:36	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 02:36	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 02:36	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 02:36	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 02:36	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 02:36	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 02:36	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 02:36	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 02:36	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 02:36	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 02:36	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 02:36	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 02:36	95-50-1	
1,4-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		04/03/18 02:36	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 02:36	110-57-6	
Dichlorodifluoromethane	0.35J	ug/L	1.0	0.31	1		04/03/18 02:36	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 02:36	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 02:36	75-35-4	
cis-1,2-Dichloroethene	2.0	ug/L	0.50	0.20	1		04/03/18 02:36	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 02:36	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 02:36	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 02:36	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 02:36	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 02:36	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 02:36	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 02:36	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 02:36	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 02:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 02:36	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 02:36	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 02:36	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 02:36	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 02:36	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 02:36	79-34-5	
Tetrachloroethene	3.4	ug/L	0.50	0.16	1		04/03/18 02:36	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: LF-3 **Lab ID: 10425293001** Collected: 03/27/18 10:30 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 02:36	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 02:36	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 02:36	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 02:36	79-00-5	
Trichloroethene	0.88	ug/L	0.40	0.18	1		04/03/18 02:36	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 02:36	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 02:36	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 02:36	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 02:36	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 02:36	108-05-4	
Vinyl chloride	<0.096	ug/L	0.20	0.096	1		04/03/18 02:36	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 02:36	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		04/03/18 02:36	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		04/03/18 02:36	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		04/03/18 02:36	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-18 Lab ID: 10425293002 Collected: 03/27/18 11:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	18.5J	ug/L	20.0	8.8	1		04/03/18 03:00	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 03:00	107-13-1	
Benzene	0.71	ug/L	0.50	0.13	1		04/03/18 03:00	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 03:00	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 03:00	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 03:00	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 03:00	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 03:00	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 03:00	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 03:00	56-23-5	
Chlorobenzene	0.14J	ug/L	0.50	0.14	1		04/03/18 03:00	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 03:00	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 03:00	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 03:00	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 03:00	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 03:00	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 03:00	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 03:00	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 03:00	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:00	95-50-1	
1,4-Dichlorobenzene	1.7	ug/L	0.50	0.10	1		04/03/18 03:00	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 03:00	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 03:00	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:00	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:00	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 03:00	75-35-4	
cis-1,2-Dichloroethene	2.2	ug/L	0.50	0.20	1		04/03/18 03:00	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:00	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 03:00	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 03:00	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:00	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 03:00	123-91-1	
Ethylbenzene	0.21J	ug/L	0.50	0.14	1		04/03/18 03:00	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 03:00	110-54-3	
2-Hexanone	4.3J	ug/L	5.0	2.5	1		04/03/18 03:00	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 03:00	74-88-4	
Isopropylbenzene (Cumene)	0.37J	ug/L	0.50	0.14	1		04/03/18 03:00	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 03:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	2.2J	ug/L	5.0	0.55	1		04/03/18 03:00	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 03:00	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 03:00	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 03:00	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:00	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:00	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 03:00	79-34-5	
Tetrachloroethene	<0.16	ug/L	0.50	0.16	1		04/03/18 03:00	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-18 **Lab ID: 10425293002** Collected: 03/27/18 11:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	31.2	ug/L	10.0	4.3	1		04/03/18 03:00	109-99-9	
Toluene	0.49J	ug/L	0.50	0.17	1		04/03/18 03:00	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:00	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 03:00	79-00-5	
Trichloroethene	0.25J	ug/L	0.40	0.18	1		04/03/18 03:00	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 03:00	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 03:00	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 03:00	76-13-1	
1,2,4-Trimethylbenzene	0.60	ug/L	0.50	0.098	1		04/03/18 03:00	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 03:00	108-05-4	
Vinyl chloride	3.9	ug/L	0.20	0.096	1		04/03/18 03:00	75-01-4	
Xylene (Total)	0.73J	ug/L	1.5	0.24	1		04/03/18 03:00	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		04/03/18 03:00	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		04/03/18 03:00	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		04/03/18 03:00	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-20 **Lab ID: 10425293003** Collected: 03/27/18 12:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 03:23	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 03:23	107-13-1	
Benzene	<0.13	ug/L	0.50	0.13	1		04/03/18 03:23	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 03:23	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 03:23	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 03:23	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 03:23	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 03:23	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 03:23	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 03:23	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 03:23	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 03:23	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 03:23	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 03:23	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 03:23	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 03:23	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 03:23	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 03:23	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:23	95-50-1	
1,4-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		04/03/18 03:23	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 03:23	110-57-6	
Dichlorodifluoromethane	0.34J	ug/L	1.0	0.31	1		04/03/18 03:23	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:23	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 03:23	75-35-4	
cis-1,2-Dichloroethene	<0.20	ug/L	0.50	0.20	1		04/03/18 03:23	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:23	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 03:23	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 03:23	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:23	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 03:23	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 03:23	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 03:23	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 03:23	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 03:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 03:23	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 03:23	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 03:23	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:23	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:23	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 03:23	79-34-5	
Tetrachloroethene	8.1	ug/L	0.50	0.16	1		04/03/18 03:23	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-20 **Lab ID: 10425293003** Collected: 03/27/18 12:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 03:23	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 03:23	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:23	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 03:23	79-00-5	
Trichloroethene	0.39J	ug/L	0.40	0.18	1		04/03/18 03:23	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 03:23	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 03:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 03:23	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 03:23	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 03:23	108-05-4	
Vinyl chloride	<0.096	ug/L	0.20	0.096	1		04/03/18 03:23	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 03:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		04/03/18 03:23	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		04/03/18 03:23	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		04/03/18 03:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: LF-2 **Lab ID: 10425293004** Collected: 03/27/18 14:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 03:47	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 03:47	107-13-1	
Benzene	<0.13	ug/L	0.50	0.13	1		04/03/18 03:47	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 03:47	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 03:47	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 03:47	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 03:47	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 03:47	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 03:47	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 03:47	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 03:47	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 03:47	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 03:47	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 03:47	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 03:47	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 03:47	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 03:47	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 03:47	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:47	95-50-1	
1,4-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		04/03/18 03:47	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 03:47	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 03:47	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:47	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 03:47	75-35-4	
cis-1,2-Dichloroethene	0.36J	ug/L	0.50	0.20	1		04/03/18 03:47	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 03:47	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 03:47	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 03:47	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:47	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 03:47	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 03:47	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 03:47	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 03:47	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 03:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 03:47	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 03:47	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 03:47	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 03:47	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 03:47	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 03:47	79-34-5	
Tetrachloroethene	0.74	ug/L	0.50	0.16	1		04/03/18 03:47	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: LF-2 **Lab ID: 10425293004** Collected: 03/27/18 14:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 03:47	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 03:47	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 03:47	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 03:47	79-00-5	
Trichloroethene	<0.18	ug/L	0.40	0.18	1		04/03/18 03:47	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 03:47	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 03:47	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 03:47	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 03:47	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 03:47	108-05-4	
Vinyl chloride	<0.096	ug/L	0.20	0.096	1		04/03/18 03:47	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 03:47	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		04/03/18 03:47	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		04/03/18 03:47	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		04/03/18 03:47	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-17 **Lab ID: 10425293005** Collected: 03/27/18 15:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 04:11	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 04:11	107-13-1	
Benzene	<0.13	ug/L	0.50	0.13	1		04/03/18 04:11	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 04:11	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 04:11	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 04:11	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 04:11	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 04:11	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 04:11	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 04:11	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 04:11	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 04:11	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 04:11	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 04:11	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 04:11	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 04:11	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 04:11	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 04:11	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 04:11	95-50-1	
1,4-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		04/03/18 04:11	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 04:11	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 04:11	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:11	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 04:11	75-35-4	
cis-1,2-Dichloroethene	6.0	ug/L	0.50	0.20	1		04/03/18 04:11	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 04:11	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 04:11	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 04:11	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:11	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 04:11	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 04:11	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 04:11	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 04:11	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 04:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 04:11	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 04:11	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 04:11	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:11	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 04:11	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 04:11	79-34-5	
Tetrachloroethene	4.0	ug/L	0.50	0.16	1		04/03/18 04:11	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-17 **Lab ID: 10425293005** Collected: 03/27/18 15:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 04:11	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 04:11	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:11	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 04:11	79-00-5	
Trichloroethene	1.7	ug/L	0.40	0.18	1		04/03/18 04:11	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 04:11	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 04:11	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 04:11	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 04:11	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 04:11	108-05-4	
Vinyl chloride	<0.096	ug/L	0.20	0.096	1		04/03/18 04:11	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 04:11	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		04/03/18 04:11	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		04/03/18 04:11	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		04/03/18 04:11	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-12 **Lab ID: 10425293006** Collected: 03/27/18 16:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 04:35	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 04:35	107-13-1	
Benzene	0.74	ug/L	0.50	0.13	1		04/03/18 04:35	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 04:35	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 04:35	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 04:35	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 04:35	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 04:35	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 04:35	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 04:35	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 04:35	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 04:35	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 04:35	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 04:35	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 04:35	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 04:35	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 04:35	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 04:35	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 04:35	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 04:35	95-50-1	
1,4-Dichlorobenzene	0.38J	ug/L	0.50	0.10	1		04/03/18 04:35	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 04:35	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 04:35	75-71-8	
1,1-Dichloroethane	0.74	ug/L	0.50	0.14	1		04/03/18 04:35	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:35	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 04:35	75-35-4	
cis-1,2-Dichloroethene	7.7	ug/L	0.50	0.20	1		04/03/18 04:35	156-59-2	
trans-1,2-Dichloroethene	0.31J	ug/L	0.50	0.21	1		04/03/18 04:35	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 04:35	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 04:35	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:35	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 04:35	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 04:35	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 04:35	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 04:35	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 04:35	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 04:35	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 04:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 04:35	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 04:35	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 04:35	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 04:35	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:35	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 04:35	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 04:35	79-34-5	
Tetrachloroethene	<0.16	ug/L	0.50	0.16	1		04/03/18 04:35	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: MW-12 **Lab ID: 10425293006** Collected: 03/27/18 16:20 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 04:35	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 04:35	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:35	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 04:35	79-00-5	
Trichloroethene	<0.18	ug/L	0.40	0.18	1		04/03/18 04:35	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 04:35	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 04:35	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 04:35	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 04:35	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 04:35	108-05-4	
Vinyl chloride	5.3	ug/L	0.20	0.096	1		04/03/18 04:35	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 04:35	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		04/03/18 04:35	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		04/03/18 04:35	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		04/03/18 04:35	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: DUP **Lab ID: 10425293007** Collected: 03/27/18 11:10 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	19.8J	ug/L	20.0	8.8	1		04/03/18 04:58	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 04:58	107-13-1	
Benzene	0.70	ug/L	0.50	0.13	1		04/03/18 04:58	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 04:58	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 04:58	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 04:58	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 04:58	74-83-9	CL
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 04:58	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 04:58	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 04:58	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 04:58	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 04:58	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 04:58	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 04:58	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 04:58	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 04:58	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 04:58	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 04:58	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 04:58	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 04:58	95-50-1	
1,4-Dichlorobenzene	1.8	ug/L	0.50	0.10	1		04/03/18 04:58	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 04:58	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 04:58	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 04:58	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:58	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 04:58	75-35-4	
cis-1,2-Dichloroethene	2.5	ug/L	0.50	0.20	1		04/03/18 04:58	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 04:58	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 04:58	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 04:58	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:58	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 04:58	123-91-1	
Ethylbenzene	0.21J	ug/L	0.50	0.14	1		04/03/18 04:58	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 04:58	110-54-3	
2-Hexanone	4.6J	ug/L	5.0	2.5	1		04/03/18 04:58	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 04:58	74-88-4	
Isopropylbenzene (Cumene)	0.36J	ug/L	0.50	0.14	1		04/03/18 04:58	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 04:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	2.3J	ug/L	5.0	0.55	1		04/03/18 04:58	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 04:58	1634-04-4	
2-Propanol	<20.6	ug/L	100	20.6	1		04/03/18 04:58	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 04:58	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 04:58	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 04:58	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 04:58	79-34-5	
Tetrachloroethene	<0.16	ug/L	0.50	0.16	1		04/03/18 04:58	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: DUP **Lab ID: 10425293007** Collected: 03/27/18 11:10 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	29.4	ug/L	10.0	4.3	1		04/03/18 04:58	109-99-9	
Toluene	0.46J	ug/L	0.50	0.17	1		04/03/18 04:58	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 04:58	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 04:58	79-00-5	
Trichloroethene	0.31J	ug/L	0.40	0.18	1		04/03/18 04:58	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 04:58	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 04:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 04:58	76-13-1	
1,2,4-Trimethylbenzene	0.59	ug/L	0.50	0.098	1		04/03/18 04:58	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 04:58	108-05-4	
Vinyl chloride	4.1	ug/L	0.20	0.096	1		04/03/18 04:58	75-01-4	
Xylene (Total)	0.72J	ug/L	1.5	0.24	1		04/03/18 04:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%.	75-125		1		04/03/18 04:58	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		04/03/18 04:58	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		04/03/18 04:58	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: Trip Blank **Lab ID: 10425293008** Collected: 03/27/18 00:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<8.8	ug/L	20.0	8.8	1		04/03/18 13:14	67-64-1	
Acrylonitrile	<4.9	ug/L	10.0	4.9	1		04/03/18 13:14	107-13-1	
Benzene	<0.13	ug/L	0.50	0.13	1		04/03/18 13:14	71-43-2	
Bromochloromethane	<0.38	ug/L	1.0	0.38	1		04/03/18 13:14	74-97-5	
Bromodichloromethane	<0.20	ug/L	0.50	0.20	1		04/03/18 13:14	75-27-4	
Bromoform	<1.0	ug/L	4.0	1.0	1		04/03/18 13:14	75-25-2	
Bromomethane	<1.5	ug/L	4.0	1.5	1		04/03/18 13:14	74-83-9	
2-Butanone (MEK)	<2.4	ug/L	5.0	2.4	1		04/03/18 13:14	78-93-3	
Carbon disulfide	<0.37	ug/L	1.0	0.37	1		04/03/18 13:14	75-15-0	
Carbon tetrachloride	<0.20	ug/L	0.50	0.20	1		04/03/18 13:14	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	108-90-7	
Chloroethane	<0.44	ug/L	1.0	0.44	1		04/03/18 13:14	75-00-3	
Chloroform	<0.46	ug/L	1.0	0.46	1		04/03/18 13:14	67-66-3	
Chloromethane	<1.1	ug/L	4.0	1.1	1		04/03/18 13:14	74-87-3	
Cyclohexane	<1.1	ug/L	5.0	1.1	1		04/03/18 13:14	110-82-7	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	4.0	1.0	1		04/03/18 13:14	96-12-8	
Dibromochloromethane	<0.13	ug/L	1.0	0.13	1		04/03/18 13:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.17	ug/L	0.50	0.17	1		04/03/18 13:14	106-93-4	
Dibromomethane	<0.50	ug/L	1.0	0.50	1		04/03/18 13:14	74-95-3	
1,2-Dichlorobenzene	<0.21	ug/L	0.50	0.21	1		04/03/18 13:14	95-50-1	
1,4-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		04/03/18 13:14	106-46-7	
trans-1,4-Dichloro-2-butene	<2.8	ug/L	10.0	2.8	1		04/03/18 13:14	110-57-6	
Dichlorodifluoromethane	<0.31	ug/L	1.0	0.31	1		04/03/18 13:14	75-71-8	
1,1-Dichloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	75-34-3	
1,2-Dichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 13:14	107-06-2	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		04/03/18 13:14	75-35-4	
cis-1,2-Dichloroethene	<0.20	ug/L	0.50	0.20	1		04/03/18 13:14	156-59-2	
trans-1,2-Dichloroethene	<0.21	ug/L	0.50	0.21	1		04/03/18 13:14	156-60-5	
1,2-Dichloropropane	<0.62	ug/L	4.0	0.62	1		04/03/18 13:14	78-87-5	
cis-1,3-Dichloropropene	<0.12	ug/L	1.0	0.12	1		04/03/18 13:14	10061-01-5	
trans-1,3-Dichloropropene	<0.14	ug/L	1.0	0.14	1		04/03/18 13:14	10061-02-6	
1,4-Dioxane (p-Dioxane)	<22.6	ug/L	200	22.6	1		04/03/18 13:14	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	100-41-4	
n-Hexane	<3.6	ug/L	10.0	3.6	1		04/03/18 13:14	110-54-3	
2-Hexanone	<2.5	ug/L	5.0	2.5	1		04/03/18 13:14	591-78-6	
Iodomethane	<1.6	ug/L	4.0	1.6	1		04/03/18 13:14	74-88-4	
Isopropylbenzene (Cumene)	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	98-82-8	
Methylene Chloride	<1.2	ug/L	4.0	1.2	1		04/03/18 13:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.55	ug/L	5.0	0.55	1		04/03/18 13:14	108-10-1	
Methyl-tert-butyl ether	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	1634-04-4	
2-Propanol	34.5J	ug/L	100	20.6	1		04/03/18 13:14	67-63-0	
n-Propylbenzene	<0.12	ug/L	0.50	0.12	1		04/03/18 13:14	103-65-1	
Styrene	<0.14	ug/L	1.0	0.14	1		04/03/18 13:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.14	ug/L	0.50	0.14	1		04/03/18 13:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.19	ug/L	0.50	0.19	1		04/03/18 13:14	79-34-5	
Tetrachloroethene	<0.16	ug/L	0.50	0.16	1		04/03/18 13:14	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200

Pace Project No.: 10425293

Sample: Trip Blank **Lab ID: 10425293008** Collected: 03/27/18 00:00 Received: 03/28/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<4.3	ug/L	10.0	4.3	1		04/03/18 13:14	109-99-9	
Toluene	<0.17	ug/L	0.50	0.17	1		04/03/18 13:14	108-88-3	
1,1,1-Trichloroethane	<0.15	ug/L	0.50	0.15	1		04/03/18 13:14	71-55-6	
1,1,2-Trichloroethane	<0.22	ug/L	0.50	0.22	1		04/03/18 13:14	79-00-5	
Trichloroethene	<0.18	ug/L	0.40	0.18	1		04/03/18 13:14	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		04/03/18 13:14	75-69-4	
1,2,3-Trichloropropane	<0.66	ug/L	4.0	0.66	1		04/03/18 13:14	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.28	ug/L	1.0	0.28	1		04/03/18 13:14	76-13-1	
1,2,4-Trimethylbenzene	<0.098	ug/L	0.50	0.098	1		04/03/18 13:14	95-63-6	
Vinyl acetate	<1.5	ug/L	10.0	1.5	1		04/03/18 13:14	108-05-4	
Vinyl chloride	<0.096	ug/L	0.20	0.096	1		04/03/18 13:14	75-01-4	
Xylene (Total)	<0.24	ug/L	1.5	0.24	1		04/03/18 13:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		04/03/18 13:14	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		04/03/18 13:14	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		04/03/18 13:14	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

QC Batch: 530257 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
 Associated Lab Samples: 10425293001, 10425293002, 10425293003, 10425293004, 10425293005, 10425293006, 10425293007

METHOD BLANK: 2878222 Matrix: Water
 Associated Lab Samples: 10425293001, 10425293002, 10425293003, 10425293004, 10425293005, 10425293006, 10425293007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
1,1,1-Trichloroethane	ug/L	<0.15	0.50	0.15	04/02/18 23:03	
1,1,2,2-Tetrachloroethane	ug/L	<0.19	0.50	0.19	04/02/18 23:03	
1,1,2-Trichloroethane	ug/L	<0.22	0.50	0.22	04/02/18 23:03	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.28	1.0	0.28	04/02/18 23:03	
1,1-Dichloroethane	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
1,1-Dichloroethene	ug/L	<0.18	0.50	0.18	04/02/18 23:03	
1,2,3-Trichloropropane	ug/L	<0.66	4.0	0.66	04/02/18 23:03	
1,2,4-Trimethylbenzene	ug/L	<0.098	0.50	0.098	04/02/18 23:03	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	4.0	1.0	04/02/18 23:03	
1,2-Dibromoethane (EDB)	ug/L	<0.17	0.50	0.17	04/02/18 23:03	
1,2-Dichlorobenzene	ug/L	<0.21	0.50	0.21	04/02/18 23:03	
1,2-Dichloroethane	ug/L	<0.15	0.50	0.15	04/02/18 23:03	
1,2-Dichloropropane	ug/L	<0.62	4.0	0.62	04/02/18 23:03	
1,4-Dichlorobenzene	ug/L	<0.10	0.50	0.10	04/02/18 23:03	
1,4-Dioxane (p-Dioxane)	ug/L	<22.6	200	22.6	04/02/18 23:03	
2-Butanone (MEK)	ug/L	<2.4	5.0	2.4	04/02/18 23:03	
2-Hexanone	ug/L	<2.5	5.0	2.5	04/02/18 23:03	
2-Propanol	ug/L	<20.6	100	20.6	04/02/18 23:03	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.55	5.0	0.55	04/02/18 23:03	
Acetone	ug/L	<8.8	20.0	8.8	04/02/18 23:03	
Acrylonitrile	ug/L	<4.9	10.0	4.9	04/02/18 23:03	
Benzene	ug/L	<0.13	0.50	0.13	04/02/18 23:03	
Bromochloromethane	ug/L	<0.38	1.0	0.38	04/02/18 23:03	
Bromodichloromethane	ug/L	<0.20	0.50	0.20	04/02/18 23:03	
Bromoform	ug/L	<1.0	4.0	1.0	04/02/18 23:03	
Bromomethane	ug/L	<1.5	4.0	1.5	04/02/18 23:03	
Carbon disulfide	ug/L	<0.37	1.0	0.37	04/02/18 23:03	
Carbon tetrachloride	ug/L	<0.20	0.50	0.20	04/02/18 23:03	
Chlorobenzene	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
Chloroethane	ug/L	<0.44	1.0	0.44	04/02/18 23:03	
Chloroform	ug/L	<0.46	1.0	0.46	04/02/18 23:03	
Chloromethane	ug/L	<1.1	4.0	1.1	04/02/18 23:03	
cis-1,2-Dichloroethene	ug/L	<0.20	0.50	0.20	04/02/18 23:03	
cis-1,3-Dichloropropene	ug/L	<0.12	1.0	0.12	04/02/18 23:03	MN
Cyclohexane	ug/L	<1.1	5.0	1.1	04/02/18 23:03	
Dibromochloromethane	ug/L	<0.13	1.0	0.13	04/02/18 23:03	MN
Dibromomethane	ug/L	<0.50	1.0	0.50	04/02/18 23:03	
Dichlorodifluoromethane	ug/L	<0.31	1.0	0.31	04/02/18 23:03	
Ethylbenzene	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
Iodomethane	ug/L	<1.6	4.0	1.6	04/02/18 23:03	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

METHOD BLANK: 2878222

Matrix: Water

Associated Lab Samples: 10425293001, 10425293002, 10425293003, 10425293004, 10425293005, 10425293006, 10425293007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
Methyl-tert-butyl ether	ug/L	<0.14	0.50	0.14	04/02/18 23:03	
Methylene Chloride	ug/L	<1.2	4.0	1.2	04/02/18 23:03	
n-Hexane	ug/L	<3.6	10.0	3.6	04/02/18 23:03	
n-Propylbenzene	ug/L	<0.12	0.50	0.12	04/02/18 23:03	
Styrene	ug/L	<0.14	1.0	0.14	04/02/18 23:03	MN
Tetrachloroethene	ug/L	<0.16	0.50	0.16	04/02/18 23:03	
Tetrahydrofuran	ug/L	<4.3	10.0	4.3	04/02/18 23:03	
Toluene	ug/L	<0.17	0.50	0.17	04/02/18 23:03	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	0.21	04/02/18 23:03	
trans-1,3-Dichloropropene	ug/L	<0.14	1.0	0.14	04/02/18 23:03	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.8	10.0	2.8	04/02/18 23:03	
Trichloroethene	ug/L	<0.18	0.40	0.18	04/02/18 23:03	
Trichlorofluoromethane	ug/L	<0.13	0.50	0.13	04/02/18 23:03	
Vinyl acetate	ug/L	<1.5	10.0	1.5	04/02/18 23:03	
Vinyl chloride	ug/L	<0.096	0.20	0.096	04/02/18 23:03	
Xylene (Total)	ug/L	<0.24	1.5	0.24	04/02/18 23:03	
1,2-Dichloroethane-d4 (S)	%	97	75-125		04/02/18 23:03	
4-Bromofluorobenzene (S)	%	97	75-125		04/02/18 23:03	
Toluene-d8 (S)	%	98	75-125		04/02/18 23:03	

LABORATORY CONTROL SAMPLE: 2878223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	97	75-125	
1,1,1-Trichloroethane	ug/L	20	19.0	95	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	75-125	
1,1,2-Trichloroethane	ug/L	20	18.7	94	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	92	72-125	
1,1-Dichloroethane	ug/L	20	19.3	97	75-125	
1,1-Dichloroethene	ug/L	20	18.7	94	73-125	
1,2,3-Trichloropropane	ug/L	20	17.6	88	75-125	
1,2,4-Trimethylbenzene	ug/L	20	18.2	91	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	48.0	96	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	18.4	92	75-125	
1,2-Dichlorobenzene	ug/L	20	18.8	94	75-125	
1,2-Dichloroethane	ug/L	20	18.4	92	75-125	
1,2-Dichloropropane	ug/L	20	18.3	92	75-125	
1,4-Dichlorobenzene	ug/L	20	20.0	100	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	401	100	75-125	
2-Butanone (MEK)	ug/L	100	93.4	93	65-126	
2-Hexanone	ug/L	100	88.9	89	75-134	
2-Propanol	ug/L	200	162	81	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.7	98	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

LABORATORY CONTROL SAMPLE: 2878223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	95.2	95	68-150	
Acrylonitrile	ug/L	200	183	92	75-125	
Benzene	ug/L	20	18.8	94	75-125	
Bromochloromethane	ug/L	20	19.4	97	75-125	
Bromodichloromethane	ug/L	20	18.8	94	75-125	
Bromoform	ug/L	20	18.0	90	70-125	
Bromomethane	ug/L	20	8.4	42	30-145	CL
Carbon disulfide	ug/L	20	16.1	81	67-125	
Carbon tetrachloride	ug/L	20	19.4	97	75-125	
Chlorobenzene	ug/L	20	19.3	97	75-125	
Chloroethane	ug/L	20	19.5	97	73-131	
Chloroform	ug/L	20	18.6	93	75-125	
Chloromethane	ug/L	20	13.4	67	52-132	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	75-125	
cis-1,3-Dichloropropene	ug/L	20	17.6	88	75-125	
Cyclohexane	ug/L	100	89.3	89	66-125	
Dibromochloromethane	ug/L	20	18.4	92	75-125	
Dibromomethane	ug/L	20	18.6	93	75-125	
Dichlorodifluoromethane	ug/L	20	16.5	82	64-127	
Ethylbenzene	ug/L	20	19.9	100	75-125	
Iodomethane	ug/L	20	17.3	87	72-127	
Isopropylbenzene (Cumene)	ug/L	20	19.1	96	75-125	
Methyl-tert-butyl ether	ug/L	20	19.4	97	75-125	
Methylene Chloride	ug/L	20	18.3	92	72-125	
n-Hexane	ug/L	50	44.3	89	49-138	
n-Propylbenzene	ug/L	20	17.9	90	75-125	
Styrene	ug/L	20	18.3	92	75-125	
Tetrachloroethene	ug/L	20	18.9	95	75-125	
Tetrahydrofuran	ug/L	200	204	102	64-150	
Toluene	ug/L	20	18.9	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.5	88	75-125	
trans-1,3-Dichloropropene	ug/L	20	17.8	89	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	37.6	75	57-126	
Trichloroethene	ug/L	20	20.2	101	75-125	
Trichlorofluoromethane	ug/L	20	20.9	105	74-126	
Vinyl acetate	ug/L	20	16.7	84	72-129	
Vinyl chloride	ug/L	20	17.4	87	71-130	
Xylene (Total)	ug/L	60	60.3	101	75-125	
1,2-Dichloroethane-d4 (S)	%			98	75-125	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			97	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

Parameter	Units	2878224		2878225		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
1,1,1,2-Tetrachloroethane	ug/L	<0.14	20	20	21.3	20.9	107	105	75-125	2	30		
1,1,1-Trichloroethane	ug/L	<0.15	20	20	22.1	21.4	111	107	75-129	3	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.19	20	20	19.2	20.0	96	100	75-125	4	30		
1,1,2-Trichloroethane	ug/L	<0.22	20	20	19.9	19.6	100	98	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.28	20	20	22.6	21.5	113	108	75-136	5	30		
1,1-Dichloroethane	ug/L	<0.14	20	20	21.4	20.7	107	104	75-125	3	30		
1,1-Dichloroethene	ug/L	<0.18	20	20	22.9	22.2	115	111	75-127	3	30		
1,2,3-Trichloropropane	ug/L	<0.66	20	20	18.6	19.5	93	97	75-125	4	30		
1,2,4-Trimethylbenzene	ug/L	<0.098	20	20	20.8	20.5	104	103	71-125	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.0	50	50	50.3	53.9	101	108	61-127	7	30		
1,2-Dibromoethane (EDB)	ug/L	<0.17	20	20	20.1	20.0	101	100	75-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.21	20	20	20.9	20.2	104	101	75-125	3	30		
1,2-Dichloroethane	ug/L	<0.15	20	20	19.7	19.3	98	97	69-125	2	30		
1,2-Dichloropropane	ug/L	<0.62	20	20	20.2	19.6	101	98	75-125	3	30		
1,4-Dichlorobenzene	ug/L	<0.10	20	20	22.5	21.8	112	109	74-125	3	30		
1,4-Dioxane (p-Dioxane)	ug/L	<22.6	400	400	425	394	106	99	67-128	8	30		
2-Butanone (MEK)	ug/L	<2.4	100	100	89.9	97.4	90	97	59-125	8	30		
2-Hexanone	ug/L	<2.5	100	100	90.2	95.6	90	96	68-138	6	30		
2-Propanol	ug/L	<20.6	200	200	209	201	105	101	44-150	4	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.55	100	100	101	107	101	107	73-125	6	30		
Acetone	ug/L	<8.8	100	100	152	145	152	145	75-150	4	30	M1	
Acrylonitrile	ug/L	<4.9	200	200	187	192	93	96	69-127	2	30		
Benzene	ug/L	<0.13	20	20	21.2	20.6	106	103	74-125	3	30		
Bromochloromethane	ug/L	<0.38	20	20	21.3	20.9	106	104	75-125	2	30		
Bromodichloromethane	ug/L	<0.20	20	20	20.3	19.7	102	99	75-125	3	30		
Bromoform	ug/L	<1.0	20	20	18.8	19.0	94	95	68-125	1	30		
Bromomethane	ug/L	<1.5	20	20	12.2	12.2	61	61	37-149	0	30	CL	
Carbon disulfide	ug/L	<0.37	20	20	22.0	21.1	110	105	66-139	4	30		
Carbon tetrachloride	ug/L	<0.20	20	20	22.9	22.2	115	111	75-127	3	30		
Chlorobenzene	ug/L	<0.14	20	20	21.6	21.1	108	106	75-125	2	30		
Chloroethane	ug/L	<0.44	20	20	21.8	20.6	109	103	73-134	5	30		
Chloroform	ug/L	<0.46	20	20	20.2	19.9	101	99	71-125	1	30		
Chloromethane	ug/L	<1.1	20	20	15.7	15.1	78	75	58-133	4	30		
cis-1,2-Dichloroethene	ug/L	<0.20	20	20	21.5	20.7	107	104	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	<0.12	20	20	19.2	18.7	96	93	71-125	3	30		
Cyclohexane	ug/L	<1.1	100	100	112	109	112	109	73-148	3	30		
Dibromochloromethane	ug/L	<0.13	20	20	20.1	20.0	101	100	75-125	0	30		
Dibromomethane	ug/L	<0.50	20	20	19.9	19.6	100	98	75-125	2	30		
Dichlorodifluoromethane	ug/L	<0.31	20	20	21.4	20.2	107	101	70-150	6	30		
Ethylbenzene	ug/L	<0.14	20	20	22.6	22.0	113	110	75-125	3	30		
Iodomethane	ug/L	<1.6	20	20	20.3	19.5	101	98	73-138	4	30		
Isopropylbenzene (Cumene)	ug/L	<0.14	20	20	22.0	21.7	110	108	75-125	2	30		
Methyl-tert-butyl ether	ug/L	<0.14	20	20	20.6	20.5	103	102	75-125	1	30		
Methylene Chloride	ug/L	<1.2	20	20	19.3	18.9	96	95	72-125	2	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

Parameter	Units	2878224		2878225		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10424458005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
n-Hexane	ug/L	<3.6	50	50	101	84.9	202	170	37-150	17	30	M1	
n-Propylbenzene	ug/L	<0.12	20	20	21.2	20.8	106	104	75-126	2	30		
Styrene	ug/L	<0.14	20	20	20.4	20.1	102	101	71-125	2	30		
Tetrachloroethene	ug/L	<0.16	20	20	22.8	22.2	114	111	75-125	3	30		
Tetrahydrofuran	ug/L	<4.3	200	200	349	338	175	169	75-150	3	30	M1	
Toluene	ug/L	<0.17	20	20	21.7	21.1	108	105	74-125	3	30		
trans-1,2-Dichloroethene	ug/L	<0.21	20	20	20.7	20.3	104	101	75-125	2	30		
trans-1,3-Dichloropropene	ug/L	<0.14	20	20	19.4	19.0	97	95	70-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	<2.8	50	50	42.5	44.2	85	88	57-125	4	30		
Trichloroethene	ug/L	<0.18	20	20	23.4	22.6	117	113	75-125	4	30		
Trichlorofluoromethane	ug/L	<0.13	20	20	23.9	22.5	119	112	75-135	6	30		
Vinyl acetate	ug/L	<1.5	20	20	17.6	18.1	88	90	57-136	3	30		
Vinyl chloride	ug/L	<0.096	20	20	20.9	19.8	104	99	74-141	5	30		
Xylene (Total)	ug/L	<0.24	60	60	70.1	68.7	117	115	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%						97	96	75-125				
4-Bromofluorobenzene (S)	%						97	99	75-125				
Toluene-d8 (S)	%						98	98	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200
Pace Project No.: 10425293

QC Batch: 530362 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10425293008

METHOD BLANK: 2878696 Matrix: Water
Associated Lab Samples: 10425293008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
1,1,1-Trichloroethane	ug/L	<0.15	0.50	0.15	04/03/18 12:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.19	0.50	0.19	04/03/18 12:50	
1,1,2-Trichloroethane	ug/L	<0.22	0.50	0.22	04/03/18 12:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.28	1.0	0.28	04/03/18 12:50	
1,1-Dichloroethane	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
1,1-Dichloroethene	ug/L	<0.18	0.50	0.18	04/03/18 12:50	
1,2,3-Trichloropropane	ug/L	<0.66	4.0	0.66	04/03/18 12:50	
1,2,4-Trimethylbenzene	ug/L	<0.098	0.50	0.098	04/03/18 12:50	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	4.0	1.0	04/03/18 12:50	
1,2-Dibromoethane (EDB)	ug/L	<0.17	0.50	0.17	04/03/18 12:50	
1,2-Dichlorobenzene	ug/L	<0.21	0.50	0.21	04/03/18 12:50	
1,2-Dichloroethane	ug/L	<0.15	0.50	0.15	04/03/18 12:50	
1,2-Dichloropropane	ug/L	<0.62	4.0	0.62	04/03/18 12:50	
1,4-Dichlorobenzene	ug/L	<0.10	0.50	0.10	04/03/18 12:50	
1,4-Dioxane (p-Dioxane)	ug/L	<22.6	200	22.6	04/03/18 12:50	
2-Butanone (MEK)	ug/L	<2.4	5.0	2.4	04/03/18 12:50	
2-Hexanone	ug/L	<2.5	5.0	2.5	04/03/18 12:50	
2-Propanol	ug/L	<20.6	100	20.6	04/03/18 12:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.55	5.0	0.55	04/03/18 12:50	
Acetone	ug/L	<8.8	20.0	8.8	04/03/18 12:50	
Acrylonitrile	ug/L	<4.9	10.0	4.9	04/03/18 12:50	
Benzene	ug/L	<0.13	0.50	0.13	04/03/18 12:50	
Bromochloromethane	ug/L	<0.38	1.0	0.38	04/03/18 12:50	
Bromodichloromethane	ug/L	<0.20	0.50	0.20	04/03/18 12:50	
Bromoform	ug/L	<1.0	4.0	1.0	04/03/18 12:50	
Bromomethane	ug/L	<1.5	4.0	1.5	04/03/18 12:50	
Carbon disulfide	ug/L	<0.37	1.0	0.37	04/03/18 12:50	
Carbon tetrachloride	ug/L	<0.20	0.50	0.20	04/03/18 12:50	
Chlorobenzene	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
Chloroethane	ug/L	<0.44	1.0	0.44	04/03/18 12:50	
Chloroform	ug/L	<0.46	1.0	0.46	04/03/18 12:50	
Chloromethane	ug/L	<1.1	4.0	1.1	04/03/18 12:50	
cis-1,2-Dichloroethene	ug/L	<0.20	0.50	0.20	04/03/18 12:50	
cis-1,3-Dichloropropene	ug/L	<0.12	1.0	0.12	04/03/18 12:50	MN
Cyclohexane	ug/L	<1.1	5.0	1.1	04/03/18 12:50	
Dibromochloromethane	ug/L	<0.13	1.0	0.13	04/03/18 12:50	MN
Dibromomethane	ug/L	<0.50	1.0	0.50	04/03/18 12:50	
Dichlorodifluoromethane	ug/L	<0.31	1.0	0.31	04/03/18 12:50	
Ethylbenzene	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
Iodomethane	ug/L	<1.6	4.0	1.6	04/03/18 12:50	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

METHOD BLANK: 2878696

Matrix: Water

Associated Lab Samples: 10425293008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
Methyl-tert-butyl ether	ug/L	<0.14	0.50	0.14	04/03/18 12:50	
Methylene Chloride	ug/L	<1.2	4.0	1.2	04/03/18 12:50	
n-Hexane	ug/L	<3.6	10.0	3.6	04/03/18 12:50	
n-Propylbenzene	ug/L	<0.12	0.50	0.12	04/03/18 12:50	
Styrene	ug/L	<0.14	1.0	0.14	04/03/18 12:50	MN
Tetrachloroethene	ug/L	<0.16	0.50	0.16	04/03/18 12:50	
Tetrahydrofuran	ug/L	<4.3	10.0	4.3	04/03/18 12:50	
Toluene	ug/L	<0.17	0.50	0.17	04/03/18 12:50	
trans-1,2-Dichloroethene	ug/L	<0.21	0.50	0.21	04/03/18 12:50	
trans-1,3-Dichloropropene	ug/L	<0.14	1.0	0.14	04/03/18 12:50	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.8	10.0	2.8	04/03/18 12:50	
Trichloroethene	ug/L	<0.18	0.40	0.18	04/03/18 12:50	
Trichlorofluoromethane	ug/L	<0.13	0.50	0.13	04/03/18 12:50	
Vinyl acetate	ug/L	<1.5	10.0	1.5	04/03/18 12:50	
Vinyl chloride	ug/L	<0.096	0.20	0.096	04/03/18 12:50	
Xylene (Total)	ug/L	<0.24	1.5	0.24	04/03/18 12:50	
1,2-Dichloroethane-d4 (S)	%	97	75-125		04/03/18 12:50	
4-Bromofluorobenzene (S)	%	98	75-125		04/03/18 12:50	
Toluene-d8 (S)	%	97	75-125		04/03/18 12:50	

LABORATORY CONTROL SAMPLE: 2878697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.6	103	75-125	
1,1,1-Trichloroethane	ug/L	20	19.9	100	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	102	75-125	
1,1,2-Trichloroethane	ug/L	20	19.8	99	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.7	99	72-125	
1,1-Dichloroethane	ug/L	20	20.0	100	75-125	
1,1-Dichloroethene	ug/L	20	19.9	99	73-125	
1,2,3-Trichloropropane	ug/L	20	19.4	97	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.6	98	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	52.3	105	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	19.9	99	75-125	
1,2-Dichlorobenzene	ug/L	20	20.2	101	75-125	
1,2-Dichloroethane	ug/L	20	19.3	97	75-125	
1,2-Dichloropropane	ug/L	20	18.9	95	75-125	
1,4-Dichlorobenzene	ug/L	20	21.6	108	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	418	105	75-125	
2-Butanone (MEK)	ug/L	100	99.4	99	65-126	
2-Hexanone	ug/L	100	93.7	94	75-134	
2-Propanol	ug/L	200	166	83	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

LABORATORY CONTROL SAMPLE: 2878697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	123	123	68-150	
Acrylonitrile	ug/L	200	205	103	75-125	
Benzene	ug/L	20	19.9	99	75-125	
Bromochloromethane	ug/L	20	20.4	102	75-125	
Bromodichloromethane	ug/L	20	19.4	97	75-125	
Bromoform	ug/L	20	18.9	95	70-125	
Bromomethane	ug/L	20	13.0	65	30-145	
Carbon disulfide	ug/L	20	17.7	88	67-125	
Carbon tetrachloride	ug/L	20	20.1	100	75-125	
Chlorobenzene	ug/L	20	20.6	103	75-125	
Chloroethane	ug/L	20	20.9	105	73-131	
Chloroform	ug/L	20	19.4	97	75-125	
Chloromethane	ug/L	20	15.5	77	52-132	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.7	94	75-125	
Cyclohexane	ug/L	100	94.2	94	66-125	
Dibromochloromethane	ug/L	20	19.8	99	75-125	
Dibromomethane	ug/L	20	19.1	96	75-125	
Dichlorodifluoromethane	ug/L	20	19.7	98	64-127	
Ethylbenzene	ug/L	20	20.9	104	75-125	
Iodomethane	ug/L	20	18.1	91	72-127	
Isopropylbenzene (Cumene)	ug/L	20	20.1	100	75-125	
Methyl-tert-butyl ether	ug/L	20	20.6	103	75-125	
Methylene Chloride	ug/L	20	19.0	95	72-125	
n-Hexane	ug/L	50	63.7	127	49-138	
n-Propylbenzene	ug/L	20	19.4	97	75-125	
Styrene	ug/L	20	19.4	97	75-125	
Tetrachloroethene	ug/L	20	19.8	99	75-125	
Tetrahydrofuran	ug/L	200	283	141	64-150	CH
Toluene	ug/L	20	19.6	98	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.3	97	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	46.1	92	57-126	
Trichloroethene	ug/L	20	21.3	106	75-125	
Trichlorofluoromethane	ug/L	20	21.8	109	74-126	
Vinyl acetate	ug/L	20	18.5	93	72-129	
Vinyl chloride	ug/L	20	19.2	96	71-130	
Xylene (Total)	ug/L	60	63.5	106	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			96	75-125	
Toluene-d8 (S)	%			97	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

Parameter	Units	2878698		2878699		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10425707008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20.2	20.7	101	103	75-125	2	30		
1,1,1-Trichloroethane	ug/L	ND	20	20	20.9	21.0	104	105	75-129	0	30		
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	18.5	20.1	93	101	75-125	8	30		
1,1,2-Trichloroethane	ug/L	ND	20	20	18.9	19.4	95	97	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	21.5	21.8	107	109	75-136	2	30		
1,1-Dichloroethane	ug/L	ND	20	20	20.4	20.4	102	102	75-125	0	30		
1,1-Dichloroethene	ug/L	ND	20	20	21.7	21.3	109	107	75-127	2	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	17.5	19.1	88	95	75-125	9	30		
1,2,4-Trimethylbenzene	ug/L	ND	20	20	19.3	20.2	97	101	71-125	5	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	46.2	52.3	92	105	61-127	12	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.7	19.6	94	98	75-125	4	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	19.1	20.3	95	102	75-125	6	30		
1,2-Dichloroethane	ug/L	ND	20	20	18.8	19.1	94	96	69-125	2	30		
1,2-Dichloropropane	ug/L	ND	20	20	18.4	19.0	92	95	75-125	3	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	20.8	21.8	104	109	74-125	5	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	381	402	95	101	67-128	5	30		
2-Butanone (MEK)	ug/L	ND	100	100	84.9	96.1	85	96	59-125	12	30		
2-Hexanone	ug/L	ND	100	100	82.3	93.7	82	94	68-138	13	30		
2-Propanol	ug/L	ND	200	200	207	209	103	104	44-150	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	92.9	104	93	104	73-125	12	30		
Acetone	ug/L	ND	100	100	145	148	145	148	75-150	2	30		
Acrylonitrile	ug/L	ND	200	200	181	195	91	98	69-127	8	30		
Benzene	ug/L	ND	20	20	19.9	20.1	100	101	74-125	1	30		
Bromochloromethane	ug/L	ND	20	20	20.2	20.4	101	102	75-125	1	30		
Bromodichloromethane	ug/L	ND	20	20	18.7	19.4	93	97	75-125	4	30		
Bromoform	ug/L	ND	20	20	17.7	18.7	88	94	68-125	6	30		
Bromomethane	ug/L	ND	20	20	13.7	15.6	69	78	37-149	13	30		
Carbon disulfide	ug/L	ND	20	20	20.0	19.3	100	96	66-139	4	30		
Carbon tetrachloride	ug/L	ND	20	20	21.5	21.7	108	109	75-127	1	30		
Chlorobenzene	ug/L	ND	20	20	20.2	20.7	101	103	75-125	2	30		
Chloroethane	ug/L	ND	20	20	20.1	21.0	100	105	73-134	5	30		
Chloroform	ug/L	ND	20	20	18.9	19.3	94	97	71-125	3	30		
Chloromethane	ug/L	ND	20	20	15.1	15.5	76	77	58-133	2	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.9	20.1	99	101	75-125	1	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	17.7	18.0	88	90	71-125	2	30		
Cyclohexane	ug/L	ND	100	100	98.6	100	99	100	73-148	2	30		
Dibromochloromethane	ug/L	ND	20	20	19.1	19.8	95	99	75-125	4	30		
Dibromomethane	ug/L	ND	20	20	18.1	18.7	90	94	75-125	4	30		
Dichlorodifluoromethane	ug/L	ND	20	20	19.7	20.4	98	102	70-150	4	30		
Ethylbenzene	ug/L	ND	20	20	20.4	21.3	102	106	75-125	4	30		
Iodomethane	ug/L	ND	20	20	18.4	18.3	92	91	73-138	1	30		
Isopropylbenzene (Cumene)	ug/L	ND	20	20	19.7	20.6	99	103	75-125	4	30		
Methyl-tert-butyl ether	ug/L	ND	20	20	19.3	20.0	96	100	75-125	3	30		
Methylene Chloride	ug/L	ND	20	20	18.1	18.1	91	91	72-125	0	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200

Pace Project No.: 10425293

Parameter	Units	2878698		2878699		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10425707008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
n-Hexane	ug/L	ND	50	50	94.4	86.6	189	173	37-150	9	30	M1	
n-Propylbenzene	ug/L	ND	20	20	19.2	20.0	96	100	75-126	4	30		
Styrene	ug/L	ND	20	20	18.7	19.5	94	98	71-125	4	30		
Tetrachloroethene	ug/L	ND	20	20	20.0	21.1	100	106	75-125	6	30		
Tetrahydrofuran	ug/L	ND	200	200	325	339	162	170	75-150	4	30	CH,M1	
Toluene	ug/L	ND	20	20	19.7	20.4	99	102	74-125	3	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.6	19.5	98	98	75-125	1	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.6	19.2	93	96	70-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	41.7	46.1	83	92	57-125	10	30		
Trichloroethene	ug/L	ND	20	20	21.7	21.9	108	110	75-125	1	30		
Trichlorofluoromethane	ug/L	ND	20	20	21.5	22.6	107	113	75-135	5	30		
Vinyl acetate	ug/L	ND	20	20	18.1	18.7	91	94	57-136	3	30		
Vinyl chloride	ug/L	ND	20	20	19.3	20.2	96	101	74-141	5	30		
Xylene (Total)	ug/L	ND	60	60	62.3	64.7	104	108	75-125	4	30		
1,2-Dichloroethane-d4 (S)	%						98	96	75-125				
4-Bromofluorobenzene (S)	%						96	98	75-125				
Toluene-d8 (S)	%						97	98	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-710326D.200

Pace Project No.: 10425293

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

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

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

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

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326D.200

Pace Project No.: 10425293

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10425293001	LF-3	EPA 8260B	530257		
10425293002	MW-18	EPA 8260B	530257		
10425293003	MW-20	EPA 8260B	530257		
10425293004	LF-2	EPA 8260B	530257		
10425293005	MW-17	EPA 8260B	530257		
10425293006	MW-12	EPA 8260B	530257		
10425293007	DUP	EPA 8260B	530257		
10425293008	Trip Blank	EPA 8260B	530362		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CHAIN-OF-CUSTODY / Analytical Request Document
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed.

WO#: 10425293



10425293

Section C
Invoice Information:

Attention: Deb Lloyd
Company Name: ChataTech
Address: Helena MT
Purchase Order No.:
Reference:
Pace Project Manager: Beverly Faraday
Pace Profile #:
Site Location STATE: MT

Section B
Required Project Information:

Report To:
Copy To:
Purchase Order No.:
Project Name:
Project Number: 114-710326 D. 200

Section A
Required Client Information:

Company: TetraTech
Address: 101 Prider Dr Ste 6
Bozeman MT
Email To: mark.pearson@tetatech.com
Phone: 877-8780 Fax:
Requested Due Date/TAT: Normal

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location STATE: MT

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	DATE	TIME	DATE			TIME
1	LF-3	DW			2018	3/27	1030	3	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ O ₃	Methanol	Other	8260 (low)	001
2	MW-18	WT					1100											002
3	MW-20	P					1200											003
4	LF-2	SL					1420											004
5	MW-17	OL					1520											005
6	MW-12	WP					1620											006
7	PUP	AR					1110	2										007
8	Trip Blank	TS																008
9		OT																
10																		
11																		
12																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
1 coaks	Mark Pearson / Ft	3/27/18	1700	Bob Ex	3/27/18	1000	Y
	Mark Pearson			Bob Ex	3/27/18	1000	Y
							Y
							Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Mark Pearson DATE Signed (MM/DD/YYYY): 3/27/18
SIGNATURE of SAMPLER: Mark Pearson

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. FALL-Q-020rev.07, 15-May-2007

Sample Condition Upon Receipt	Client Name: <u>Tetra Tech</u>	Project #: _____	<h1 style="margin: 0;">WO# : 10425293</h1> <p style="margin: 0;">PM: BEF Due Date: 04/10/18</p> <p style="margin: 0;">CLIENT: 11 Tetra-MT</p>
Courier:	<input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> SpeedDee <input type="checkbox"/> Other: _____		
Tracking Number:	<u>7718 5233 0918</u>		

Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material: <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Thermometer Used: <input type="checkbox"/> 151401163 <input checked="" type="checkbox"/> G87A9155100842	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Dry <input type="checkbox"/> Melted	
Cooler Temp Read (°C): <u>3.5</u> Cooler Temp Corrected (°C): <u>3.7</u>	Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Temp should be above freezing to 6°C	Correction Factor: <u>1.012</u> Date and Initials of Person Examining Contents: <u>mo 3/28/18</u>	

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample # _____
Exception: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>151341</u>	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Benny Fung Date: 3/28/18

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).

September 07, 2018

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

RE: Project: 114-710326 Bozeman Landfill
Pace Project No.: 10444881

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures

cc: Shane Matolyak, Tetra Tech



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
 A2LA Certification #: 2926.01
 Alabama Certification #: 40770
 Alaska Contaminated Sites Certification #: 17-009
 Alaska DW Certification #: MN00064
 Arizona Certification #: AZ0014
 Arkansas DW Certification #: MN00064
 Arkansas WW Certification #: 88-0680
 California Certification #: 2929
 CNMI Saipan Certification #: MP0003
 Colorado Certification #: MN00064
 Connecticut Certification #: PH-0256
 EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
 Florida Certification #: E87605
 Georgia Certification #: 959
 Guam EPA Certification #: MN00064
 Hawaii Certification #: MN00064
 Idaho Certification #: MN00064
 Illinois Certification #: 200011
 Indiana Certification #: C-MN-01
 Iowa Certification #: 368
 Kansas Certification #: E-10167
 Kentucky DW Certification #: 90062
 Kentucky WW Certification #: 90062
 Louisiana DEQ Certification #: 03086
 Louisiana DW Certification #: MN00064
 Maine Certification #: MN00064
 Maryland Certification #: 322
 Massachusetts Certification #: M-MN064
 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137
 Minnesota Dept of Ag Certification #: via MN 027-053-137
 Minnesota Petrofund Certification #: 1240
 Mississippi Certification #: MN00064
 Montana Certification #: CERT0092
 Nebraska Certification #: NE-OS-18-06
 Nevada Certification #: MN00064
 New Hampshire Certification #: 2081
 New Jersey Certification #: MN002
 New York Certification #: 11647
 North Carolina DW Certification #: 27700
 North Carolina WW Certification #: 530
 North Dakota Certification #: R-036
 Ohio DW Certification #: 41244
 Ohio VAP Certification #: CL101
 Oklahoma Certification #: 9507
 Oregon NwTPH Certification #: MN300001
 Oregon Secondary Certification #: MN200001
 Pennsylvania Certification #: 68-00563
 Puerto Rico Certification #: MN00064
 South Carolina Certification #: 74003001
 Tennessee Certification #: TN02818
 Texas Certification #: T104704192
 Utah Certification #: MN00064
 Virginia Certification #: 460163
 Washington Certification #: C486
 West Virginia DW Certification #: 9952 C
 West Virginia DEP Certification #: 382
 Wisconsin Certification #: 999407970
 Wyoming UST Certification #: via A2LA 2926.01

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
 A2LA Certification: # 3590.01
 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
 Washington Department of Ecology #: C993
 Nevada Certificate #: MT00012

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10444881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10444881001	LF-2	Water	08/20/18 16:20	08/24/18 10:00
10444881002	LF-3	Water	08/20/18 15:50	08/24/18 10:00
10444881003	MW-4	Water	08/20/18 12:20	08/24/18 10:00
10444881004	MW-5	Water	08/20/18 11:00	08/24/18 10:00
10444881005	MW-6	Water	08/20/18 15:00	08/24/18 10:00
10444881006	MW-7A	Water	08/23/18 10:20	08/24/18 10:00
10444881007	MW-8A	Water	08/23/18 09:45	08/24/18 10:00
10444881008	MW-9A	Water	08/20/18 13:30	08/24/18 10:00
10444881009	MW-10	Water	08/22/18 10:00	08/24/18 10:00
10444881010	MW-11	Water	08/22/18 12:00	08/24/18 10:00
10444881011	MW-12	Water	08/22/18 12:50	08/24/18 10:00
10444881012	MW-13	Water	08/23/18 11:00	08/24/18 10:00
10444881013	MW-15	Water	08/20/18 11:30	08/24/18 10:00
10444881014	MW-17	Water	08/21/18 16:45	08/24/18 10:00
10444881015	MW-18	Water	08/21/18 14:30	08/24/18 10:00
10444881016	MW-19	Water	08/20/18 16:10	08/24/18 10:00
10444881017	MW-20	Water	08/22/18 11:30	08/24/18 10:00
10444881018	MW-24	Water	08/22/18 11:00	08/24/18 10:00
10444881019	MW-27	Water	08/22/18 09:15	08/24/18 10:00
10444881020	Mclihatton Seep	Water	08/22/18 10:15	08/24/18 10:00
10444881021	Valley View Vet Well	Water	08/22/18 10:30	08/24/18 10:00
10444881022	DUP 1	Water	08/20/18 15:10	08/24/18 10:00
10444881023	DUP 2	Water	08/21/18 14:40	08/24/18 10:00
10444881024	DUP 3	Water	08/22/18 13:00	08/24/18 10:00
10444881025	TRIP BLANK 1	Water	08/20/18 00:00	08/24/18 10:00
10444881026	TRIP BLANK 2	Water	08/20/18 00:00	08/24/18 10:00

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10444881001	LF-2	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881002	LF-3	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881003	MW-4	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881004	MW-5	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881005	MW-6	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881006	MW-7A	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881007	MW-8A	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881008	MW-9A	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881009	MW-10	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881010	MW-11	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881011	MW-12	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881012	MW-13	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881013	MW-15	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881014	MW-17	EPA 8260B	AEZ	61	PASI-M
10444881015	MW-18	EPA 8260B	AEZ	61	PASI-M
10444881016	MW-19	EPA 8260B	AEZ	61	PASI-M
10444881017	MW-20	EPA 8260B	AEZ	61	PASI-M
10444881018	MW-24	EPA 8260B	AEZ	61	PASI-M
10444881019	MW-27	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881020	Mclihatton Seep	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881021	Valley View Vet Well	EPA 8260B	AEZ	61	PASI-M
10444881022	DUP 1	EPA 8260B	AEZ	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 353.2	MHB	1	PASI-MT
10444881023	DUP 2	EPA 8260B	AEZ	61	PASI-M
10444881024	DUP 3	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	MHB	1	PASI-MT
10444881025	TRIP BLANK 1	EPA 8260B	AEZ	61	PASI-M
10444881026	TRIP BLANK 2	EPA 8260B	AEZ	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

General Information:

26 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 559205

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

- BLANK (Lab ID: 3036133)
 - Bromomethane
- LCS (Lab ID: 3036134)
 - Bromomethane
- MS (Lab ID: 3036135)
 - Bromomethane
- MSD (Lab ID: 3036136)
 - Bromomethane
- TRIP BLANK 1 (Lab ID: 10444881025)
 - Bromomethane
- TRIP BLANK 2 (Lab ID: 10444881026)
 - Bromomethane

Internal Standards:

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

Surrogates:

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

Method Blank:

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

QC Batch: 560434

B: Analyte was detected in the associated method blank.

- BLANK for HBN 560434 [MSV/4522 (Lab ID: 3042998)]
 - Carbon disulfide

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

QC Batch: 559205

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3036134)
 - 1,1,1,2-Tetrachloroethane
 - Bromoform
 - trans-1,4-Dichloro-2-butene

QC Batch: 560434

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 3042999)
 - Carbon disulfide

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3042999)
 - 2-Hexanone

Matrix Spikes:

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

QC Batch: 559205

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10444316001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 3036135)
 - 1,1,1,2-Tetrachloroethane
- MSD (Lab ID: 3036136)
 - 1,1,1,2-Tetrachloroethane
 - Bromoform

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

- MS (Lab ID: 3036135)
 - Carbon tetrachloride
- MSD (Lab ID: 3036136)
 - Carbon tetrachloride

QC Batch: 560434

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10446122001

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

- MS (Lab ID: 3044099)
 - n-Hexane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

Analyte Comments:

QC Batch: 559205

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3036133)
 - Cyclohexane
- LCS (Lab ID: 3036134)
 - Cyclohexane
- MS (Lab ID: 3036135)
 - Cyclohexane
- MSD (Lab ID: 3036136)
 - Cyclohexane
- TRIP BLANK 1 (Lab ID: 10444881025)
 - Cyclohexane
- TRIP BLANK 2 (Lab ID: 10444881026)
 - Cyclohexane

QC Batch: 560367

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3042309)
 - Cyclohexane
- LCS (Lab ID: 3042310)
 - Cyclohexane
- LF-2 (Lab ID: 10444881001)
 - Cyclohexane
- LF-3 (Lab ID: 10444881002)
 - Cyclohexane
- MS (Lab ID: 3042311)
 - Cyclohexane
- MSD (Lab ID: 3042312)
 - Cyclohexane
- MW-15 (Lab ID: 10444881013)
 - Cyclohexane
- MW-19 (Lab ID: 10444881016)
 - Cyclohexane
- MW-4 (Lab ID: 10444881003)
 - Cyclohexane
- MW-5 (Lab ID: 10444881004)
 - Cyclohexane
- MW-6 (Lab ID: 10444881005)
 - Cyclohexane
- MW-9A (Lab ID: 10444881008)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

Analyte Comments:

QC Batch: 560434

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3042998)
 - Cyclohexane
- DUP 1 (Lab ID: 10444881022)
 - Cyclohexane
- LCS (Lab ID: 3042999)
 - Cyclohexane
- MS (Lab ID: 3044099)
 - Cyclohexane
- MSD (Lab ID: 3044100)
 - Cyclohexane

QC Batch: 560436

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3043002)
 - Cyclohexane
- DUP 2 (Lab ID: 10444881023)
 - Cyclohexane
- DUP 3 (Lab ID: 10444881024)
 - Cyclohexane
- LCS (Lab ID: 3043003)
 - Cyclohexane
- MS (Lab ID: 3043004)
 - Cyclohexane
- MSD (Lab ID: 3043005)
 - Cyclohexane
- MW-10 (Lab ID: 10444881009)
 - Cyclohexane
- MW-11 (Lab ID: 10444881010)
 - Cyclohexane
- MW-12 (Lab ID: 10444881011)
 - Cyclohexane
- MW-13 (Lab ID: 10444881012)
 - Cyclohexane
- MW-17 (Lab ID: 10444881014)
 - Cyclohexane
- MW-18 (Lab ID: 10444881015)
 - Cyclohexane
- MW-20 (Lab ID: 10444881017)
 - Cyclohexane
- MW-24 (Lab ID: 10444881018)
 - Cyclohexane
- MW-27 (Lab ID: 10444881019)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

Analyte Comments:

QC Batch: 560436

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- MW-7A (Lab ID: 10444881006)
 - Cyclohexane
- MW-8A (Lab ID: 10444881007)
 - Cyclohexane
- Mclihatton Seep (Lab ID: 10444881020)
 - Cyclohexane
- Valley View Vet Well (Lab ID: 10444881021)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 353.2

Description: 353.2 Nitrate + Nitrite pres.

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

General Information:

17 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

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

Initial Calibrations (including MS Tune as applicable):

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

Continuing Calibration:

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

Internal Standards:

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

Surrogates:

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

Method Blank:

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

QC Batch: 560715

B: Analyte was detected in the associated method blank.

- BLANK for HBN 560715 [MT/38400 (Lab ID: 3044092)
- Nitrogen, NO2 plus NO3

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

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

QC Batch: 560715

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10444881008,10444881013

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 3044094)
 - Nitrogen, NO2 plus NO3
- MS (Lab ID: 3044096)
 - Nitrogen, NO2 plus NO3

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Method: EPA 353.2

Description: 353.2 Nitrate + Nitrite pres.

Client: Tetra Tech, Inc. - MT

Date: September 07, 2018

QC Batch: 560657

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s):
10444823002, 10444843002, 10444881001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 3043854)
- Nitrogen, NO₂ plus NO₃

Duplicate Sample:

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

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: LF-2 **Lab ID: 10444881001** Collected: 08/20/18 16:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 14:49	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 14:49	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 14:49	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 14:49	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 14:49	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 14:49	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 14:49	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 14:49	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 14:49	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 14:49	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 14:49	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 14:49	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 14:49	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/01/18 14:49	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 14:49	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 14:49	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 14:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 14:49	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 14:49	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 14:49	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 14:49	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 14:49	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 14:49	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 14:49	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 14:49	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 14:49	75-35-4	
cis-1,2-Dichloroethene	0.40J	ug/L	0.50	0.15	1		09/01/18 14:49	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 14:49	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 14:49	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 14:49	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 14:49	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 14:49	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 14:49	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 14:49	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 14:49	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 14:49	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 14:49	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 14:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 14:49	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 14:49	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 14:49	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 14:49	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 14:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 14:49	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 14:49	79-34-5	
Tetrachloroethene	1.1	ug/L	0.50	0.17	1		09/01/18 14:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: LF-2 **Lab ID: 10444881001** Collected: 08/20/18 16:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 14:49	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 14:49	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 14:49	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 14:49	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/01/18 14:49	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 14:49	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 14:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 14:49	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 14:49	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 14:49	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 14:49	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 14:49	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/01/18 14:49	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/01/18 14:49	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/01/18 14:49	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.1	mg/L	0.10	0.031	10		09/04/18 17:00		M6

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: LF-3 **Lab ID: 10444881002** Collected: 08/20/18 15:50 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 15:13	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 15:13	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 15:13	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 15:13	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 15:13	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 15:13	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 15:13	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 15:13	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 15:13	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 15:13	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 15:13	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 15:13	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 15:13	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/01/18 15:13	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 15:13	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 15:13	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 15:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 15:13	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 15:13	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 15:13	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 15:13	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 15:13	110-57-6	
Dichlorodifluoromethane	0.37J	ug/L	1.0	0.23	1		09/01/18 15:13	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 15:13	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 15:13	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 15:13	75-35-4	
cis-1,2-Dichloroethene	2.3	ug/L	0.50	0.15	1		09/01/18 15:13	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 15:13	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 15:13	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 15:13	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 15:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 15:13	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 15:13	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 15:13	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 15:13	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 15:13	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 15:13	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 15:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 15:13	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 15:13	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 15:13	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 15:13	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 15:13	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 15:13	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 15:13	79-34-5	
Tetrachloroethene	3.5	ug/L	0.50	0.17	1		09/01/18 15:13	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: LF-3 **Lab ID: 10444881002** Collected: 08/20/18 15:50 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 15:13	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 15:13	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 15:13	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 15:13	79-00-5	
Trichloroethene	0.93	ug/L	0.40	0.15	1		09/01/18 15:13	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 15:13	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 15:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 15:13	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 15:13	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 15:13	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 15:13	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 15:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/01/18 15:13	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/01/18 15:13	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		09/01/18 15:13	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.9	mg/L	0.10	0.031	10		09/04/18 17:03		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-4 **Lab ID: 10444881003** Collected: 08/20/18 12:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 15:37	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 15:37	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 15:37	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 15:37	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 15:37	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 15:37	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 15:37	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 15:37	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 15:37	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 15:37	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 15:37	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 15:37	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 15:37	67-66-3	
Chloromethane	0.41J	ug/L	4.0	0.16	1		09/01/18 15:37	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 15:37	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 15:37	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 15:37	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 15:37	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 15:37	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 15:37	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 15:37	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 15:37	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 15:37	75-71-8	
1,1-Dichloroethane	0.37J	ug/L	0.50	0.17	1		09/01/18 15:37	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 15:37	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 15:37	75-35-4	
cis-1,2-Dichloroethene	0.58	ug/L	0.50	0.15	1		09/01/18 15:37	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 15:37	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 15:37	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 15:37	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 15:37	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 15:37	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 15:37	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 15:37	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 15:37	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 15:37	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 15:37	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 15:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 15:37	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 15:37	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 15:37	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 15:37	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 15:37	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 15:37	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 15:37	79-34-5	
Tetrachloroethene	1.0	ug/L	0.50	0.17	1		09/01/18 15:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-4 **Lab ID: 10444881003** Collected: 08/20/18 12:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 15:37	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 15:37	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 15:37	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 15:37	79-00-5	
Trichloroethene	0.59	ug/L	0.40	0.15	1		09/01/18 15:37	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 15:37	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 15:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 15:37	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 15:37	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 15:37	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 15:37	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 15:37	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/01/18 15:37	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/01/18 15:37	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/01/18 15:37	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	2.4	mg/L	0.050	0.016	5		09/04/18 17:06		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-5 **Lab ID: 10444881004** Collected: 08/20/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 16:01	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 16:01	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 16:01	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 16:01	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:01	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 16:01	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 16:01	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 16:01	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 16:01	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 16:01	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:01	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 16:01	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 16:01	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/01/18 16:01	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 16:01	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 16:01	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 16:01	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 16:01	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 16:01	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:01	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:01	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 16:01	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 16:01	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 16:01	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:01	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 16:01	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/01/18 16:01	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 16:01	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 16:01	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 16:01	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 16:01	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 16:01	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:01	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 16:01	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 16:01	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 16:01	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 16:01	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 16:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 16:01	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 16:01	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 16:01	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 16:01	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 16:01	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 16:01	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 16:01	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:01	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-5 **Lab ID: 10444881004** Collected: 08/20/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 16:01	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 16:01	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 16:01	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 16:01	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/01/18 16:01	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 16:01	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 16:01	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 16:01	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 16:01	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 16:01	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 16:01	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 16:01	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/01/18 16:01	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/01/18 16:01	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/01/18 16:01	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.7	mg/L	0.10	0.031	10		09/04/18 17:19		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-6 **Lab ID: 10444881005** Collected: 08/20/18 15:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 16:25	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 16:25	107-13-1	
Benzene	0.14J	ug/L	0.50	0.10	1		09/01/18 16:25	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 16:25	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:25	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 16:25	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 16:25	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 16:25	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 16:25	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 16:25	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:25	108-90-7	
Chloroethane	0.85J	ug/L	1.0	0.49	1		09/01/18 16:25	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 16:25	67-66-3	
Chloromethane	0.20J	ug/L	4.0	0.16	1		09/01/18 16:25	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 16:25	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 16:25	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 16:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 16:25	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 16:25	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:25	95-50-1	
1,4-Dichlorobenzene	0.21J	ug/L	0.50	0.17	1		09/01/18 16:25	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 16:25	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 16:25	75-71-8	
1,1-Dichloroethane	0.94	ug/L	0.50	0.17	1		09/01/18 16:25	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:25	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 16:25	75-35-4	
cis-1,2-Dichloroethene	1.6	ug/L	0.50	0.15	1		09/01/18 16:25	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 16:25	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 16:25	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 16:25	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 16:25	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 16:25	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:25	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 16:25	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 16:25	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 16:25	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 16:25	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 16:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 16:25	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 16:25	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 16:25	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 16:25	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 16:25	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 16:25	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 16:25	79-34-5	
Tetrachloroethene	0.70	ug/L	0.50	0.17	1		09/01/18 16:25	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-6 **Lab ID: 10444881005** Collected: 08/20/18 15:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 16:25	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 16:25	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 16:25	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 16:25	79-00-5	
Trichloroethene	0.45	ug/L	0.40	0.15	1		09/01/18 16:25	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 16:25	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 16:25	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 16:25	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 16:25	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 16:25	108-05-4	
Vinyl chloride	0.74	ug/L	0.20	0.092	1		09/01/18 16:25	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 16:25	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/01/18 16:25	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/01/18 16:25	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/01/18 16:25	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.78	mg/L	0.020	0.0062	2		09/04/18 17:13		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-7A Lab ID: 10444881006 Collected: 08/23/18 10:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	16.5J	ug/L	20.0	9.2	1		09/04/18 05:14	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 05:14	107-13-1	
Benzene	0.36J	ug/L	0.50	0.10	1		09/04/18 05:14	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 05:14	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 05:14	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 05:14	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 05:14	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 05:14	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 05:14	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 05:14	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 05:14	108-90-7	
Chloroethane	0.69J	ug/L	1.0	0.49	1		09/04/18 05:14	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 05:14	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 05:14	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 05:14	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 05:14	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 05:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 05:14	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 05:14	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 05:14	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 05:14	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 05:14	110-57-6	
Dichlorodifluoromethane	1.4	ug/L	1.0	0.23	1		09/04/18 05:14	75-71-8	
1,1-Dichloroethane	2.9	ug/L	0.50	0.17	1		09/04/18 05:14	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 05:14	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 05:14	75-35-4	
cis-1,2-Dichloroethene	0.94	ug/L	0.50	0.15	1		09/04/18 05:14	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 05:14	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 05:14	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 05:14	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 05:14	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 05:14	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 05:14	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 05:14	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 05:14	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 05:14	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 05:14	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 05:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 05:14	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 05:14	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 05:14	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 05:14	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 05:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 05:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 05:14	79-34-5	
Tetrachloroethene	2.3	ug/L	0.50	0.17	1		09/04/18 05:14	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-7A **Lab ID: 10444881006** Collected: 08/23/18 10:20 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 05:14	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 05:14	108-88-3	
1,1,1-Trichloroethane	0.21J	ug/L	0.50	0.14	1		09/04/18 05:14	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 05:14	79-00-5	
Trichloroethene	3.0	ug/L	0.40	0.15	1		09/04/18 05:14	79-01-6	
Trichlorofluoromethane	0.41J	ug/L	0.50	0.23	1		09/04/18 05:14	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 05:14	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 05:14	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 05:14	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 05:14	108-05-4	
Vinyl chloride	0.50	ug/L	0.20	0.092	1		09/04/18 05:14	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 05:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 05:14	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/04/18 05:14	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		09/04/18 05:14	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.9	mg/L	0.10	0.031	10		09/04/18 17:14		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-8A **Lab ID: 10444881007** Collected: 08/23/18 09:45 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 05:38	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 05:38	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 05:38	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 05:38	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 05:38	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 05:38	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 05:38	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 05:38	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 05:38	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 05:38	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 05:38	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 05:38	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 05:38	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 05:38	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 05:38	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 05:38	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 05:38	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 05:38	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 05:38	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 05:38	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 05:38	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 05:38	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 05:38	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 05:38	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 05:38	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 05:38	75-35-4	
cis-1,2-Dichloroethene	0.63	ug/L	0.50	0.15	1		09/04/18 05:38	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 05:38	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 05:38	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 05:38	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 05:38	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 05:38	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 05:38	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 05:38	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 05:38	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 05:38	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 05:38	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 05:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 05:38	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 05:38	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 05:38	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 05:38	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 05:38	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 05:38	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 05:38	79-34-5	
Tetrachloroethene	0.70	ug/L	0.50	0.17	1		09/04/18 05:38	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-8A **Lab ID: 10444881007** Collected: 08/23/18 09:45 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 05:38	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 05:38	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 05:38	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 05:38	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 05:38	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 05:38	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 05:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 05:38	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 05:38	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 05:38	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 05:38	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 05:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		09/04/18 05:38	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/04/18 05:38	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 05:38	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	7.2	mg/L	0.20	0.062	20		09/05/18 12:35		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-9A **Lab ID: 10444881008** Collected: 08/20/18 13:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 16:49	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 16:49	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 16:49	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 16:49	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:49	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 16:49	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 16:49	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 16:49	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 16:49	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 16:49	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:49	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 16:49	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 16:49	67-66-3	
Chloromethane	0.24J	ug/L	4.0	0.16	1		09/01/18 16:49	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 16:49	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 16:49	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 16:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 16:49	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 16:49	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:49	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 16:49	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 16:49	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 16:49	75-71-8	
1,1-Dichloroethane	0.39J	ug/L	0.50	0.17	1		09/01/18 16:49	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 16:49	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 16:49	75-35-4	
cis-1,2-Dichloroethene	0.73	ug/L	0.50	0.15	1		09/01/18 16:49	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 16:49	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 16:49	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 16:49	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 16:49	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 16:49	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 16:49	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 16:49	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 16:49	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 16:49	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 16:49	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 16:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 16:49	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 16:49	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 16:49	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 16:49	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 16:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 16:49	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 16:49	79-34-5	
Tetrachloroethene	1.4	ug/L	0.50	0.17	1		09/01/18 16:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-9A **Lab ID: 10444881008** Collected: 08/20/18 13:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 16:49	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 16:49	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 16:49	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 16:49	79-00-5	
Trichloroethene	0.79	ug/L	0.40	0.15	1		09/01/18 16:49	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 16:49	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 16:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 16:49	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 16:49	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 16:49	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 16:49	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 16:49	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/01/18 16:49	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/01/18 16:49	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		09/01/18 16:49	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	2.4	mg/L	0.10	0.031	10		09/05/18 12:41		M6

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-10 Lab ID: 10444881009 Collected: 08/22/18 10:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 06:26	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 06:26	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 06:26	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 06:26	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:26	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 06:26	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 06:26	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 06:26	78-93-3	
Carbon disulfide	0.15J	ug/L	1.0	0.078	1		09/04/18 06:26	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 06:26	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:26	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 06:26	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 06:26	67-66-3	
Chloromethane	0.48J	ug/L	4.0	0.16	1		09/04/18 06:26	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 06:26	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 06:26	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 06:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 06:26	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 06:26	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:26	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:26	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 06:26	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 06:26	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 06:26	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:26	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 06:26	75-35-4	
cis-1,2-Dichloroethene	0.19J	ug/L	0.50	0.15	1		09/04/18 06:26	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 06:26	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 06:26	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 06:26	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 06:26	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 06:26	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:26	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 06:26	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 06:26	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 06:26	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 06:26	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 06:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 06:26	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 06:26	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 06:26	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 06:26	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 06:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 06:26	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 06:26	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:26	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-10 **Lab ID: 10444881009** Collected: 08/22/18 10:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 06:26	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 06:26	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 06:26	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 06:26	79-00-5	
Trichloroethene	0.39J	ug/L	0.40	0.15	1		09/04/18 06:26	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 06:26	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 06:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 06:26	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 06:26	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 06:26	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 06:26	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 06:26	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/04/18 06:26	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/04/18 06:26	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		09/04/18 06:26	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.0070J	mg/L	0.010	0.0031	1		09/05/18 12:44		B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-11 **Lab ID: 10444881010** Collected: 08/22/18 12:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 06:50	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 06:50	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 06:50	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 06:50	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:50	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 06:50	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 06:50	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 06:50	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 06:50	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 06:50	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:50	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 06:50	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 06:50	67-66-3	
Chloromethane	0.68J	ug/L	4.0	0.16	1		09/04/18 06:50	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 06:50	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 06:50	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 06:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 06:50	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 06:50	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:50	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:50	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 06:50	110-57-6	
Dichlorodifluoromethane	2.1	ug/L	1.0	0.23	1		09/04/18 06:50	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 06:50	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:50	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 06:50	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/04/18 06:50	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 06:50	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 06:50	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 06:50	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 06:50	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 06:50	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:50	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 06:50	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 06:50	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 06:50	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 06:50	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 06:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 06:50	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 06:50	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 06:50	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 06:50	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 06:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 06:50	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 06:50	79-34-5	
Tetrachloroethene	0.33J	ug/L	0.50	0.17	1		09/04/18 06:50	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-11 **Lab ID: 10444881010** Collected: 08/22/18 12:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 06:50	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 06:50	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 06:50	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 06:50	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 06:50	79-01-6	
Trichlorofluoromethane	1.9	ug/L	0.50	0.23	1		09/04/18 06:50	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 06:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 06:50	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 06:50	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 06:50	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 06:50	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 06:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 06:50	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		09/04/18 06:50	2037-26-5	
4-Bromofluorobenzene (S)	92	%	75-125		1		09/04/18 06:50	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	6.6	mg/L	0.20	0.062	20		09/05/18 12:47		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-12 **Lab ID: 10444881011** Collected: 08/22/18 12:50 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 07:14	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 07:14	107-13-1	
Benzene	1.0	ug/L	0.50	0.10	1		09/04/18 07:14	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 07:14	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 07:14	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 07:14	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 07:14	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 07:14	78-93-3	
Carbon disulfide	0.082J	ug/L	1.0	0.078	1		09/04/18 07:14	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 07:14	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 07:14	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 07:14	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 07:14	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 07:14	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 07:14	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 07:14	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 07:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 07:14	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 07:14	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 07:14	95-50-1	
1,4-Dichlorobenzene	0.46J	ug/L	0.50	0.17	1		09/04/18 07:14	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 07:14	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 07:14	75-71-8	
1,1-Dichloroethane	1.2	ug/L	0.50	0.17	1		09/04/18 07:14	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 07:14	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 07:14	75-35-4	
cis-1,2-Dichloroethene	6.9	ug/L	0.50	0.15	1		09/04/18 07:14	156-59-2	
trans-1,2-Dichloroethene	0.25J	ug/L	0.50	0.12	1		09/04/18 07:14	156-60-5	
1,2-Dichloropropane	0.37J	ug/L	4.0	0.16	1		09/04/18 07:14	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 07:14	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 07:14	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 07:14	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 07:14	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 07:14	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 07:14	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 07:14	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 07:14	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 07:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 07:14	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 07:14	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 07:14	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 07:14	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 07:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 07:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 07:14	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 07:14	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-12 **Lab ID: 10444881011** Collected: 08/22/18 12:50 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 07:14	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 07:14	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 07:14	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 07:14	79-00-5	
Trichloroethene	0.21J	ug/L	0.40	0.15	1		09/04/18 07:14	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 07:14	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 07:14	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 07:14	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 07:14	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 07:14	108-05-4	
Vinyl chloride	9.4	ug/L	0.20	0.092	1		09/04/18 07:14	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 07:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 07:14	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		09/04/18 07:14	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/04/18 07:14	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.040	mg/L	0.010	0.0031	1		09/05/18 12:48		B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-13 **Lab ID: 10444881012** Collected: 08/23/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 06:02	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 06:02	107-13-1	
Benzene	0.57	ug/L	0.50	0.10	1		09/04/18 06:02	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 06:02	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:02	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 06:02	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 06:02	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 06:02	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 06:02	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 06:02	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 06:02	108-90-7	
Chloroethane	1.6	ug/L	1.0	0.49	1		09/04/18 06:02	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 06:02	67-66-3	
Chloromethane	0.69J	ug/L	4.0	0.16	1		09/04/18 06:02	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 06:02	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 06:02	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 06:02	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 06:02	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 06:02	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:02	95-50-1	
1,4-Dichlorobenzene	0.55	ug/L	0.50	0.17	1		09/04/18 06:02	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 06:02	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 06:02	75-71-8	
1,1-Dichloroethane	0.84	ug/L	0.50	0.17	1		09/04/18 06:02	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 06:02	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 06:02	75-35-4	
cis-1,2-Dichloroethene	1.0	ug/L	0.50	0.15	1		09/04/18 06:02	156-59-2	
trans-1,2-Dichloroethene	0.22J	ug/L	0.50	0.12	1		09/04/18 06:02	156-60-5	
1,2-Dichloropropane	0.21J	ug/L	4.0	0.16	1		09/04/18 06:02	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 06:02	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 06:02	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 06:02	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 06:02	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 06:02	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 06:02	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 06:02	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 06:02	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 06:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 06:02	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 06:02	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 06:02	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 06:02	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 06:02	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 06:02	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 06:02	79-34-5	
Tetrachloroethene	0.31J	ug/L	0.50	0.17	1		09/04/18 06:02	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-13 **Lab ID: 10444881012** Collected: 08/23/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 06:02	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 06:02	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 06:02	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 06:02	79-00-5	
Trichloroethene	0.49	ug/L	0.40	0.15	1		09/04/18 06:02	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 06:02	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 06:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 06:02	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 06:02	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 06:02	108-05-4	
Vinyl chloride	6.1	ug/L	0.20	0.092	1		09/04/18 06:02	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 06:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 06:02	17060-07-0	
Toluene-d8 (S)	91	%	75-125		1		09/04/18 06:02	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 06:02	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.024	mg/L	0.010	0.0031	1		09/05/18 12:50		B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-15 **Lab ID: 10444881013** Collected: 08/20/18 11:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 17:13	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 17:13	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 17:13	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 17:13	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 17:13	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 17:13	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 17:13	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 17:13	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 17:13	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 17:13	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 17:13	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 17:13	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 17:13	67-66-3	
Chloromethane	0.61J	ug/L	4.0	0.16	1		09/01/18 17:13	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 17:13	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 17:13	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 17:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 17:13	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 17:13	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 17:13	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 17:13	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 17:13	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 17:13	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 17:13	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 17:13	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 17:13	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/01/18 17:13	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 17:13	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 17:13	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 17:13	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 17:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 17:13	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 17:13	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 17:13	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 17:13	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 17:13	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 17:13	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 17:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 17:13	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 17:13	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 17:13	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 17:13	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 17:13	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 17:13	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 17:13	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/01/18 17:13	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-15 **Lab ID: 10444881013** Collected: 08/20/18 11:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 17:13	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/01/18 17:13	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 17:13	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 17:13	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/01/18 17:13	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 17:13	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 17:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 17:13	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 17:13	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 17:13	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 17:13	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 17:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/01/18 17:13	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/01/18 17:13	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		09/01/18 17:13	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.5	mg/L	0.20	0.062	20		09/05/18 12:51		M6

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-17 Lab ID: 10444881014 Collected: 08/21/18 16:45 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 04:03	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 04:03	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 04:03	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 04:03	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:03	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 04:03	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 04:03	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 04:03	78-93-3	
Carbon disulfide	0.084J	ug/L	1.0	0.078	1		09/04/18 04:03	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 04:03	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:03	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 04:03	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 04:03	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 04:03	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 04:03	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 04:03	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 04:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 04:03	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 04:03	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:03	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:03	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 04:03	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 04:03	75-71-8	
1,1-Dichloroethane	0.55	ug/L	0.50	0.17	1		09/04/18 04:03	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:03	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 04:03	75-35-4	
cis-1,2-Dichloroethene	16.2	ug/L	0.50	0.15	1		09/04/18 04:03	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 04:03	156-60-5	
1,2-Dichloropropane	1.0J	ug/L	4.0	0.16	1		09/04/18 04:03	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 04:03	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 04:03	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 04:03	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:03	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 04:03	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 04:03	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 04:03	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 04:03	98-82-8	
Methylene Chloride	6.2	ug/L	4.0	0.98	1		09/04/18 04:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 04:03	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 04:03	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 04:03	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 04:03	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 04:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 04:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 04:03	79-34-5	
Tetrachloroethene	3.5	ug/L	0.50	0.17	1		09/04/18 04:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-17 **Lab ID: 10444881014** Collected: 08/21/18 16:45 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 04:03	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 04:03	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 04:03	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 04:03	79-00-5	
Trichloroethene	2.1	ug/L	0.40	0.15	1		09/04/18 04:03	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 04:03	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 04:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 04:03	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 04:03	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 04:03	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 04:03	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 04:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 04:03	17060-07-0	
Toluene-d8 (S)	92	%	75-125		1		09/04/18 04:03	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 04:03	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-18 **Lab ID: 10444881015** Collected: 08/21/18 14:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 04:27	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 04:27	107-13-1	
Benzene	0.41J	ug/L	0.50	0.10	1		09/04/18 04:27	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 04:27	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:27	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 04:27	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 04:27	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 04:27	78-93-3	
Carbon disulfide	0.13J	ug/L	1.0	0.078	1		09/04/18 04:27	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 04:27	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:27	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 04:27	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 04:27	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 04:27	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 04:27	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 04:27	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 04:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 04:27	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 04:27	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:27	95-50-1	
1,4-Dichlorobenzene	0.85	ug/L	0.50	0.17	1		09/04/18 04:27	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 04:27	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 04:27	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 04:27	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:27	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 04:27	75-35-4	
cis-1,2-Dichloroethene	1.1	ug/L	0.50	0.15	1		09/04/18 04:27	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 04:27	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 04:27	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 04:27	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 04:27	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 04:27	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:27	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 04:27	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 04:27	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 04:27	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 04:27	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 04:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 04:27	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 04:27	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 04:27	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 04:27	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 04:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 04:27	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 04:27	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:27	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-18 **Lab ID: 10444881015** Collected: 08/21/18 14:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	7.9J	ug/L	10.0	2.2	1		09/04/18 04:27	109-99-9	
Toluene	0.23J	ug/L	0.50	0.083	1		09/04/18 04:27	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 04:27	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 04:27	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 04:27	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 04:27	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 04:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 04:27	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 04:27	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 04:27	108-05-4	
Vinyl chloride	1.5	ug/L	0.20	0.092	1		09/04/18 04:27	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 04:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/04/18 04:27	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		09/04/18 04:27	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		09/04/18 04:27	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-19 **Lab ID: 10444881016** Collected: 08/20/18 16:10 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/01/18 17:37	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/01/18 17:37	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/01/18 17:37	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/01/18 17:37	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/01/18 17:37	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/01/18 17:37	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/01/18 17:37	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/01/18 17:37	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/01/18 17:37	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/01/18 17:37	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 17:37	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/01/18 17:37	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/01/18 17:37	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/01/18 17:37	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/01/18 17:37	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/01/18 17:37	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/01/18 17:37	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/01/18 17:37	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/01/18 17:37	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 17:37	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/01/18 17:37	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/01/18 17:37	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/01/18 17:37	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 17:37	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/01/18 17:37	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/01/18 17:37	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/01/18 17:37	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/01/18 17:37	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/01/18 17:37	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/01/18 17:37	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/01/18 17:37	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/01/18 17:37	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/01/18 17:37	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/01/18 17:37	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/01/18 17:37	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/01/18 17:37	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/01/18 17:37	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/01/18 17:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/01/18 17:37	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/01/18 17:37	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/01/18 17:37	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/01/18 17:37	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/01/18 17:37	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/01/18 17:37	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/01/18 17:37	79-34-5	
Tetrachloroethene	0.73	ug/L	0.50	0.17	1		09/01/18 17:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-19 **Lab ID: 10444881016** Collected: 08/20/18 16:10 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/01/18 17:37	109-99-9	
Toluene	0.27J	ug/L	0.50	0.083	1		09/01/18 17:37	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/01/18 17:37	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/01/18 17:37	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/01/18 17:37	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/01/18 17:37	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/01/18 17:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/01/18 17:37	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/01/18 17:37	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/01/18 17:37	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/01/18 17:37	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/01/18 17:37	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/01/18 17:37	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/01/18 17:37	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/01/18 17:37	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-20 **Lab ID: 10444881017** Collected: 08/22/18 11:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 07:39	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 07:39	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 07:39	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 07:39	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 07:39	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 07:39	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 07:39	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 07:39	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 07:39	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 07:39	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 07:39	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 07:39	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 07:39	67-66-3	
Chloromethane	0.33J	ug/L	4.0	0.16	1		09/04/18 07:39	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 07:39	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 07:39	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 07:39	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 07:39	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 07:39	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 07:39	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 07:39	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 07:39	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 07:39	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 07:39	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 07:39	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 07:39	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/04/18 07:39	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 07:39	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 07:39	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 07:39	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 07:39	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 07:39	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 07:39	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 07:39	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 07:39	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 07:39	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 07:39	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 07:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 07:39	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 07:39	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 07:39	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 07:39	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 07:39	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 07:39	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 07:39	79-34-5	
Tetrachloroethene	8.3	ug/L	0.50	0.17	1		09/04/18 07:39	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-20 **Lab ID: 10444881017** Collected: 08/22/18 11:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 07:39	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 07:39	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 07:39	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 07:39	79-00-5	
Trichloroethene	0.34J	ug/L	0.40	0.15	1		09/04/18 07:39	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 07:39	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 07:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 07:39	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 07:39	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 07:39	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 07:39	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 07:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/04/18 07:39	17060-07-0	
Toluene-d8 (S)	93	%	75-125		1		09/04/18 07:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		09/04/18 07:39	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-24 **Lab ID: 10444881018** Collected: 08/22/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 08:02	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 08:02	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:02	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 08:02	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:02	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 08:02	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 08:02	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 08:02	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 08:02	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 08:02	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:02	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 08:02	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 08:02	67-66-3	
Chloromethane	0.95J	ug/L	4.0	0.16	1		09/04/18 08:02	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 08:02	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 08:02	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 08:02	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 08:02	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 08:02	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:02	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:02	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 08:02	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 08:02	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:02	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:02	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 08:02	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/04/18 08:02	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 08:02	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 08:02	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 08:02	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 08:02	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 08:02	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:02	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 08:02	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 08:02	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 08:02	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 08:02	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 08:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 08:02	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 08:02	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 08:02	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:02	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 08:02	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 08:02	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:02	79-34-5	
Tetrachloroethene	2.8	ug/L	0.50	0.17	1		09/04/18 08:02	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-24 **Lab ID: 10444881018** Collected: 08/22/18 11:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 08:02	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 08:02	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 08:02	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 08:02	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 08:02	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 08:02	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 08:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 08:02	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 08:02	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 08:02	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 08:02	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 08:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 08:02	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		09/04/18 08:02	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/04/18 08:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-27 **Lab ID: 10444881019** Collected: 08/22/18 09:15 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 08:26	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 08:26	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:26	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 08:26	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:26	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 08:26	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 08:26	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 08:26	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 08:26	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 08:26	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:26	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 08:26	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 08:26	67-66-3	
Chloromethane	0.74J	ug/L	4.0	0.16	1		09/04/18 08:26	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 08:26	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 08:26	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 08:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 08:26	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 08:26	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:26	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:26	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 08:26	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 08:26	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:26	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:26	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 08:26	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/04/18 08:26	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 08:26	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 08:26	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 08:26	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 08:26	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 08:26	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:26	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 08:26	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 08:26	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 08:26	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 08:26	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 08:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 08:26	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 08:26	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 08:26	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:26	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 08:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 08:26	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:26	79-34-5	
Tetrachloroethene	0.99	ug/L	0.50	0.17	1		09/04/18 08:26	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: MW-27 **Lab ID: 10444881019** Collected: 08/22/18 09:15 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 08:26	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 08:26	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 08:26	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 08:26	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 08:26	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 08:26	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 08:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 08:26	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 08:26	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 08:26	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 08:26	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 08:26	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/04/18 08:26	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		09/04/18 08:26	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 08:26	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	6.7	mg/L	0.20	0.062	20		09/05/18 12:59		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: Mclihatton Seep Lab ID: 10444881020 Collected: 08/22/18 10:15 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 08:50	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 08:50	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:50	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 08:50	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:50	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 08:50	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 08:50	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 08:50	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 08:50	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 08:50	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:50	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 08:50	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 08:50	67-66-3	
Chloromethane	0.52J	ug/L	4.0	0.16	1		09/04/18 08:50	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 08:50	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 08:50	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 08:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 08:50	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 08:50	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:50	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 08:50	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 08:50	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 08:50	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:50	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 08:50	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 08:50	75-35-4	
cis-1,2-Dichloroethene	0.36J	ug/L	0.50	0.15	1		09/04/18 08:50	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 08:50	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 08:50	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 08:50	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 08:50	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 08:50	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 08:50	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 08:50	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 08:50	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 08:50	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 08:50	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 08:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 08:50	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 08:50	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 08:50	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 08:50	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 08:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 08:50	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 08:50	79-34-5	
Tetrachloroethene	0.96	ug/L	0.50	0.17	1		09/04/18 08:50	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: Mclihatton Seep **Lab ID: 10444881020** Collected: 08/22/18 10:15 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 08:50	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 08:50	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 08:50	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 08:50	79-00-5	
Trichloroethene	0.25J	ug/L	0.40	0.15	1		09/04/18 08:50	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 08:50	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 08:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 08:50	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 08:50	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 08:50	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 08:50	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 08:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/04/18 08:50	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/04/18 08:50	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 08:50	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	5.9	mg/L	0.20	0.062	20		09/05/18 13:02		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: Valley View Vet Well **Lab ID: 10444881021** Collected: 08/22/18 10:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 09:14	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 09:14	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		09/04/18 09:14	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 09:14	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 09:14	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 09:14	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 09:14	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 09:14	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 09:14	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 09:14	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 09:14	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 09:14	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 09:14	67-66-3	
Chloromethane	1.2J	ug/L	4.0	0.16	1		09/04/18 09:14	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 09:14	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 09:14	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 09:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 09:14	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 09:14	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 09:14	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 09:14	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 09:14	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 09:14	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 09:14	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 09:14	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 09:14	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		09/04/18 09:14	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 09:14	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 09:14	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 09:14	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 09:14	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 09:14	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 09:14	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 09:14	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 09:14	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 09:14	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 09:14	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 09:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 09:14	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 09:14	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 09:14	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 09:14	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 09:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 09:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 09:14	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 09:14	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: Valley View Vet Well **Lab ID: 10444881021** Collected: 08/22/18 10:30 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 09:14	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 09:14	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 09:14	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 09:14	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		09/04/18 09:14	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 09:14	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 09:14	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 09:14	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 09:14	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 09:14	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		09/04/18 09:14	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 09:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 09:14	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/04/18 09:14	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/04/18 09:14	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 1 **Lab ID: 10444881022** Collected: 08/20/18 15:10 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/03/18 14:52	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/03/18 14:52	107-13-1	
Benzene	0.14J	ug/L	0.50	0.10	1		09/03/18 14:52	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/03/18 14:52	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/03/18 14:52	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/03/18 14:52	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/03/18 14:52	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/03/18 14:52	78-93-3	
Carbon disulfide	0.11J	ug/L	1.0	0.078	1		09/03/18 14:52	75-15-0	B,L1
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/03/18 14:52	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/03/18 14:52	108-90-7	
Chloroethane	0.90J	ug/L	1.0	0.49	1		09/03/18 14:52	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/03/18 14:52	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/03/18 14:52	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/03/18 14:52	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/03/18 14:52	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/03/18 14:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/03/18 14:52	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/03/18 14:52	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/03/18 14:52	95-50-1	
1,4-Dichlorobenzene	0.26J	ug/L	0.50	0.17	1		09/03/18 14:52	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/03/18 14:52	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/03/18 14:52	75-71-8	
1,1-Dichloroethane	1.0	ug/L	0.50	0.17	1		09/03/18 14:52	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/03/18 14:52	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/03/18 14:52	75-35-4	
cis-1,2-Dichloroethene	1.6	ug/L	0.50	0.15	1		09/03/18 14:52	156-59-2	
trans-1,2-Dichloroethene	0.12J	ug/L	0.50	0.12	1		09/03/18 14:52	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/03/18 14:52	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/03/18 14:52	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/03/18 14:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/03/18 14:52	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/03/18 14:52	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/03/18 14:52	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/03/18 14:52	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/03/18 14:52	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/03/18 14:52	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/03/18 14:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/03/18 14:52	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/03/18 14:52	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/03/18 14:52	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/03/18 14:52	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/03/18 14:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/03/18 14:52	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/03/18 14:52	79-34-5	
Tetrachloroethene	0.75	ug/L	0.50	0.17	1		09/03/18 14:52	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 1 **Lab ID: 10444881022** Collected: 08/20/18 15:10 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/03/18 14:52	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/03/18 14:52	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/03/18 14:52	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/03/18 14:52	79-00-5	
Trichloroethene	0.49	ug/L	0.40	0.15	1		09/03/18 14:52	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/03/18 14:52	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/03/18 14:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/03/18 14:52	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/03/18 14:52	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/03/18 14:52	108-05-4	
Vinyl chloride	0.73	ug/L	0.20	0.092	1		09/03/18 14:52	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/03/18 14:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		09/03/18 14:52	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/03/18 14:52	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/03/18 14:52	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.75	mg/L	0.020	0.0062	2		09/05/18 13:03		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 2 **Lab ID: 10444881023** Collected: 08/21/18 14:40 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 04:51	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 04:51	107-13-1	
Benzene	0.46J	ug/L	0.50	0.10	1		09/04/18 04:51	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 04:51	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:51	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 04:51	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 04:51	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 04:51	78-93-3	
Carbon disulfide	0.13J	ug/L	1.0	0.078	1		09/04/18 04:51	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 04:51	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:51	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 04:51	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 04:51	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 04:51	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 04:51	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 04:51	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 04:51	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 04:51	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 04:51	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:51	95-50-1	
1,4-Dichlorobenzene	0.93	ug/L	0.50	0.17	1		09/04/18 04:51	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 04:51	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 04:51	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 04:51	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 04:51	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 04:51	75-35-4	
cis-1,2-Dichloroethene	1.2	ug/L	0.50	0.15	1		09/04/18 04:51	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		09/04/18 04:51	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		09/04/18 04:51	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 04:51	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 04:51	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 04:51	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 04:51	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 04:51	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 04:51	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 04:51	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 04:51	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 04:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 04:51	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 04:51	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 04:51	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 04:51	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 04:51	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 04:51	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 04:51	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 04:51	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 2 **Lab ID: 10444881023** Collected: 08/21/18 14:40 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	8.2J	ug/L	10.0	2.2	1		09/04/18 04:51	109-99-9	
Toluene	0.20J	ug/L	0.50	0.083	1		09/04/18 04:51	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 04:51	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 04:51	79-00-5	
Trichloroethene	0.19J	ug/L	0.40	0.15	1		09/04/18 04:51	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 04:51	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 04:51	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 04:51	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 04:51	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 04:51	108-05-4	
Vinyl chloride	1.7	ug/L	0.20	0.092	1		09/04/18 04:51	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 04:51	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 04:51	17060-07-0	
Toluene-d8 (S)	93	%	75-125		1		09/04/18 04:51	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/04/18 04:51	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 3 Lab ID: 10444881024 Collected: 08/22/18 13:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		09/04/18 09:38	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		09/04/18 09:38	107-13-1	
Benzene	1.0	ug/L	0.50	0.10	1		09/04/18 09:38	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		09/04/18 09:38	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		09/04/18 09:38	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		09/04/18 09:38	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		09/04/18 09:38	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		09/04/18 09:38	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		09/04/18 09:38	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		09/04/18 09:38	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		09/04/18 09:38	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		09/04/18 09:38	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		09/04/18 09:38	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		09/04/18 09:38	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		09/04/18 09:38	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		09/04/18 09:38	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		09/04/18 09:38	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		09/04/18 09:38	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		09/04/18 09:38	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 09:38	95-50-1	
1,4-Dichlorobenzene	0.44J	ug/L	0.50	0.17	1		09/04/18 09:38	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		09/04/18 09:38	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		09/04/18 09:38	75-71-8	
1,1-Dichloroethane	1.1	ug/L	0.50	0.17	1		09/04/18 09:38	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		09/04/18 09:38	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		09/04/18 09:38	75-35-4	
cis-1,2-Dichloroethene	7.1	ug/L	0.50	0.15	1		09/04/18 09:38	156-59-2	
trans-1,2-Dichloroethene	0.24J	ug/L	0.50	0.12	1		09/04/18 09:38	156-60-5	
1,2-Dichloropropane	0.35J	ug/L	4.0	0.16	1		09/04/18 09:38	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		09/04/18 09:38	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		09/04/18 09:38	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		09/04/18 09:38	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		09/04/18 09:38	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		09/04/18 09:38	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		09/04/18 09:38	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		09/04/18 09:38	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		09/04/18 09:38	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		09/04/18 09:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		09/04/18 09:38	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		09/04/18 09:38	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		09/04/18 09:38	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		09/04/18 09:38	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		09/04/18 09:38	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		09/04/18 09:38	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		09/04/18 09:38	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		09/04/18 09:38	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: DUP 3 Lab ID: 10444881024 Collected: 08/22/18 13:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		09/04/18 09:38	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		09/04/18 09:38	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		09/04/18 09:38	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		09/04/18 09:38	79-00-5	
Trichloroethene	0.23J	ug/L	0.40	0.15	1		09/04/18 09:38	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		09/04/18 09:38	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		09/04/18 09:38	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		09/04/18 09:38	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		09/04/18 09:38	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		09/04/18 09:38	108-05-4	
Vinyl chloride	9.5	ug/L	0.20	0.092	1		09/04/18 09:38	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		09/04/18 09:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/04/18 09:38	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		09/04/18 09:38	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/04/18 09:38	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.028	mg/L	0.010	0.0031	1		09/05/18 13:05		B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: TRIP BLANK 1 Lab ID: 10444881025 Collected: 08/20/18 00:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		08/27/18 19:28	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		08/27/18 19:28	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		08/27/18 19:28	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		08/27/18 19:28	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		08/27/18 19:28	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		08/27/18 19:28	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		08/27/18 19:28	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		08/27/18 19:28	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		08/27/18 19:28	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		08/27/18 19:28	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:28	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		08/27/18 19:28	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		08/27/18 19:28	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		08/27/18 19:28	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		08/27/18 19:28	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		08/27/18 19:28	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		08/27/18 19:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		08/27/18 19:28	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		08/27/18 19:28	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/27/18 19:28	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:28	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		08/27/18 19:28	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/27/18 19:28	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		08/27/18 19:28	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		08/27/18 19:28	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		08/27/18 19:28	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/27/18 19:28	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/27/18 19:28	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		08/27/18 19:28	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		08/27/18 19:28	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		08/27/18 19:28	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		08/27/18 19:28	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		08/27/18 19:28	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		08/27/18 19:28	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		08/27/18 19:28	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		08/27/18 19:28	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		08/27/18 19:28	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		08/27/18 19:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		08/27/18 19:28	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		08/27/18 19:28	1634-04-4	
2-Propanol	44.6J	ug/L	100	11.4	1		08/27/18 19:28	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		08/27/18 19:28	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		08/27/18 19:28	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		08/27/18 19:28	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		08/27/18 19:28	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:28	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: TRIP BLANK 1 **Lab ID: 10444881025** Collected: 08/20/18 00:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		08/27/18 19:28	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		08/27/18 19:28	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/27/18 19:28	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		08/27/18 19:28	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		08/27/18 19:28	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		08/27/18 19:28	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		08/27/18 19:28	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		08/27/18 19:28	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/27/18 19:28	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		08/27/18 19:28	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		08/27/18 19:28	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		08/27/18 19:28	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		08/27/18 19:28	17060-07-0	HS
Toluene-d8 (S)	104	%	75-125		1		08/27/18 19:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		08/27/18 19:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: TRIP BLANK 2 **Lab ID: 10444881026** Collected: 08/20/18 00:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		08/27/18 19:52	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		08/27/18 19:52	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		08/27/18 19:52	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		08/27/18 19:52	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		08/27/18 19:52	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		08/27/18 19:52	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		08/27/18 19:52	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		08/27/18 19:52	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		08/27/18 19:52	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		08/27/18 19:52	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:52	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		08/27/18 19:52	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		08/27/18 19:52	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		08/27/18 19:52	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		08/27/18 19:52	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		08/27/18 19:52	96-12-8	
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		08/27/18 19:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		08/27/18 19:52	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		08/27/18 19:52	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/27/18 19:52	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:52	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		08/27/18 19:52	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/27/18 19:52	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		08/27/18 19:52	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		08/27/18 19:52	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		08/27/18 19:52	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/27/18 19:52	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/27/18 19:52	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		08/27/18 19:52	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		08/27/18 19:52	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		08/27/18 19:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		08/27/18 19:52	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		08/27/18 19:52	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		08/27/18 19:52	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		08/27/18 19:52	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		08/27/18 19:52	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		08/27/18 19:52	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		08/27/18 19:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		08/27/18 19:52	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		08/27/18 19:52	1634-04-4	
2-Propanol	59.5J	ug/L	100	11.4	1		08/27/18 19:52	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		08/27/18 19:52	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		08/27/18 19:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		08/27/18 19:52	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		08/27/18 19:52	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		08/27/18 19:52	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Sample: TRIP BLANK 2 **Lab ID: 10444881026** Collected: 08/20/18 00:00 Received: 08/24/18 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		08/27/18 19:52	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		08/27/18 19:52	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/27/18 19:52	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		08/27/18 19:52	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		08/27/18 19:52	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		08/27/18 19:52	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		08/27/18 19:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		08/27/18 19:52	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/27/18 19:52	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		08/27/18 19:52	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		08/27/18 19:52	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		08/27/18 19:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%	75-125		1		08/27/18 19:52	17060-07-0	HS
Toluene-d8 (S)	104	%	75-125		1		08/27/18 19:52	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		08/27/18 19:52	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

QC Batch: 559205 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10444881025, 10444881026

METHOD BLANK: 3036133 Matrix: Water

Associated Lab Samples: 10444881025, 10444881026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	08/27/18 13:01	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	08/27/18 13:01	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	08/27/18 13:01	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	08/27/18 13:01	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	08/27/18 13:01	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	08/27/18 13:01	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	08/27/18 13:01	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	08/27/18 13:01	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	08/27/18 13:01	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	08/27/18 13:01	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	08/27/18 13:01	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	08/27/18 13:01	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	08/27/18 13:01	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	08/27/18 13:01	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	08/27/18 13:01	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	08/27/18 13:01	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	08/27/18 13:01	
2-Hexanone	ug/L	<0.88	5.0	0.88	08/27/18 13:01	
2-Propanol	ug/L	<11.4	100	11.4	08/27/18 13:01	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	08/27/18 13:01	
Acetone	ug/L	<9.2	20.0	9.2	08/27/18 13:01	
Acrylonitrile	ug/L	<0.91	10.0	0.91	08/27/18 13:01	
Benzene	ug/L	<0.10	0.50	0.10	08/27/18 13:01	
Bromochloromethane	ug/L	<0.27	1.0	0.27	08/27/18 13:01	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	08/27/18 13:01	
Bromoform	ug/L	<0.80	4.0	0.80	08/27/18 13:01	
Bromomethane	ug/L	<1.8	4.0	1.8	08/27/18 13:01	CL
Carbon disulfide	ug/L	<0.078	1.0	0.078	08/27/18 13:01	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	08/27/18 13:01	
Chlorobenzene	ug/L	<0.17	0.50	0.17	08/27/18 13:01	
Chloroethane	ug/L	<0.49	1.0	0.49	08/27/18 13:01	
Chloroform	ug/L	<0.45	1.0	0.45	08/27/18 13:01	
Chloromethane	ug/L	<0.16	4.0	0.16	08/27/18 13:01	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	08/27/18 13:01	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	08/27/18 13:01	
Cyclohexane	ug/L	<0.54	5.0	0.54	08/27/18 13:01	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	08/27/18 13:01	MN
Dibromomethane	ug/L	<0.16	1.0	0.16	08/27/18 13:01	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	08/27/18 13:01	
Ethylbenzene	ug/L	<0.14	0.50	0.14	08/27/18 13:01	
Iodomethane	ug/L	<0.82	4.0	0.82	08/27/18 13:01	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

METHOD BLANK: 3036133

Matrix: Water

Associated Lab Samples: 10444881025, 10444881026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	08/27/18 13:01	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	08/27/18 13:01	
Methylene Chloride	ug/L	<0.98	4.0	0.98	08/27/18 13:01	
n-Hexane	ug/L	<0.93	10.0	0.93	08/27/18 13:01	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	08/27/18 13:01	
Styrene	ug/L	<0.19	0.50	0.19	08/27/18 13:01	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	08/27/18 13:01	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	08/27/18 13:01	
Toluene	ug/L	<0.083	0.50	0.083	08/27/18 13:01	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	08/27/18 13:01	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	08/27/18 13:01	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	08/27/18 13:01	
Trichloroethene	ug/L	<0.15	0.40	0.15	08/27/18 13:01	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	08/27/18 13:01	
Vinyl acetate	ug/L	<1.1	10.0	1.1	08/27/18 13:01	
Vinyl chloride	ug/L	<0.092	0.20	0.092	08/27/18 13:01	
Xylene (Total)	ug/L	<0.31	1.5	0.31	08/27/18 13:01	
1,2-Dichloroethane-d4 (S)	%	107	75-125		08/27/18 13:01	
4-Bromofluorobenzene (S)	%	103	75-125		08/27/18 13:01	
Toluene-d8 (S)	%	101	75-125		08/27/18 13:01	

LABORATORY CONTROL SAMPLE: 3036134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	26.6	133	75-125	L3
1,1,1-Trichloroethane	ug/L	20	21.5	107	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	75-125	
1,1,2-Trichloroethane	ug/L	20	21.7	108	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.2	101	72-125	
1,1-Dichloroethane	ug/L	20	20.9	104	75-125	
1,1-Dichloroethene	ug/L	20	18.1	91	73-125	
1,2,3-Trichloropropane	ug/L	20	21.5	108	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	60.4	121	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	21.1	106	75-125	
1,2-Dichlorobenzene	ug/L	20	19.0	95	75-125	
1,2-Dichloroethane	ug/L	20	19.2	96	75-125	
1,2-Dichloropropane	ug/L	20	19.6	98	75-125	
1,4-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	408	102	75-125	
2-Butanone (MEK)	ug/L	100	105	105	65-126	
2-Hexanone	ug/L	100	123	123	75-134	
2-Propanol	ug/L	200	223	112	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	115	115	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

LABORATORY CONTROL SAMPLE: 3036134

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	106	106	68-150	
Acrylonitrile	ug/L	202	222	110	75-125	
Benzene	ug/L	20	19.7	99	75-125	
Bromochloromethane	ug/L	20	21.0	105	75-125	
Bromodichloromethane	ug/L	20	22.4	112	75-125	
Bromoform	ug/L	20	25.6	128	70-125	L3
Bromomethane	ug/L	20	8.0	40	30-145	CL
Carbon disulfide	ug/L	20	15.7	79	67-125	
Carbon tetrachloride	ug/L	20	23.4	117	75-125	
Chlorobenzene	ug/L	20	19.0	95	75-125	
Chloroethane	ug/L	20	23.7	118	73-131	
Chloroform	ug/L	20	20.6	103	75-125	
Chloromethane	ug/L	20	18.0	90	52-132	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	75-125	
cis-1,3-Dichloropropene	ug/L	20	21.6	108	75-125	
Cyclohexane	ug/L	100	93.1	93	66-125	N2
Dibromochloromethane	ug/L	20	24.7	123	75-125	
Dibromomethane	ug/L	20	20.8	104	75-125	
Dichlorodifluoromethane	ug/L	20	18.8	94	64-127	
Ethylbenzene	ug/L	20	18.6	93	75-125	
Iodomethane	ug/L	20	18.2	91	72-127	
Isopropylbenzene (Cumene)	ug/L	20	19.1	96	75-125	
Methyl-tert-butyl ether	ug/L	20	21.2	106	75-125	
Methylene Chloride	ug/L	20	19.4	97	72-125	
n-Hexane	ug/L	50	45.0	90	49-138	
n-Propylbenzene	ug/L	20	18.7	94	75-125	
Styrene	ug/L	20	20.2	101	75-125	
Tetrachloroethene	ug/L	20	17.3	87	75-125	
Tetrahydrofuran	ug/L	200	208	104	64-150	
Toluene	ug/L	20	18.6	93	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.9	89	75-125	
trans-1,3-Dichloropropene	ug/L	20	25.1	125	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	64.3	128	57-126	L3
Trichloroethene	ug/L	20	19.2	96	75-125	
Trichlorofluoromethane	ug/L	20	21.7	108	74-126	
Vinyl acetate	ug/L	20	22.7	114	72-129	
Vinyl chloride	ug/L	20	18.9	95	71-130	
Xylene (Total)	ug/L	60	58.0	97	75-125	
1,2-Dichloroethane-d4 (S)	%			106	75-125	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			102	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10444316001		MS		MSD		MS		MSD		% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec							
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3036135 3036136																
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	26.1	28.3	130	141	75-125	8	30	M0				
1,1,1-Trichloroethane	ug/L	ND	20	20	23.0	24.4	115	122	75-129	6	30					
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	18.5	21.1	93	106	75-125	13	30					
1,1,2-Trichloroethane	ug/L	ND	20	20	20.0	21.5	100	108	75-125	7	30					
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	23.8	24.8	119	124	75-136	4	30					
1,1-Dichloroethane	ug/L	ND	20	20	21.6	22.6	108	113	75-125	4	30					
1,1-Dichloroethene	ug/L	ND	20	20	20.6	22.0	103	110	75-127	6	30					
1,2,3-Trichloropropane	ug/L	ND	20	20	19.1	21.0	95	105	75-125	10	30					
1,2,4-Trimethylbenzene	ug/L	ND	20	20	18.5	20.9	93	105	71-125	12	30					
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	51.0	58.2	102	116	61-127	13	30					
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.1	21.6	100	108	75-125	7	30					
1,2-Dichlorobenzene	ug/L	ND	20	20	17.5	19.8	88	99	75-125	12	30					
1,2-Dichloroethane	ug/L	ND	20	20	17.9	19.5	90	97	69-125	8	30					
1,2-Dichloropropane	ug/L	ND	20	20	19.0	20.3	95	101	75-125	7	30					
1,4-Dichlorobenzene	ug/L	ND	20	20	17.7	19.4	88	97	74-125	10	30					
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	375	382	94	95	67-128	2	30					
2-Butanone (MEK)	ug/L	ND	100	100	87.5	101	88	101	59-125	15	30					
2-Hexanone	ug/L	ND	100	100	91.0	109	91	109	68-138	18	30					
2-Propanol	ug/L	ND	200	200	199	221	79	90	44-150	10	30					
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	94.4	109	94	109	73-125	15	30					
Acetone	ug/L	ND	100	100	95.7	98.9	93	96	75-150	3	30					
Acrylonitrile	ug/L	ND	202	202	192	211	95	105	69-127	9	30					
Benzene	ug/L	ND	20	20	20.2	21.3	101	107	74-125	5	30					
Bromochloromethane	ug/L	ND	20	20	20.0	21.5	100	107	75-125	7	30					
Bromodichloromethane	ug/L	ND	20	20	21.0	22.8	105	114	75-125	8	30					
Bromoform	ug/L	ND	20	20	22.8	25.2	114	126	68-125	10	30	M0				
Bromomethane	ug/L	ND	20	20	9.1	12.0	46	60	37-149	28	30	CL				
Carbon disulfide	ug/L	ND	20	20	18.2	18.4	91	92	66-139	1	30					
Carbon tetrachloride	ug/L	ND	20	20	25.6	27.2	128	136	75-127	6	30	M1				
Chlorobenzene	ug/L	ND	20	20	18.6	20.1	93	100	75-125	8	30					
Chloroethane	ug/L	ND	20	20	19.8	24.9	99	125	73-134	23	30					
Chloroform	ug/L	ND	20	20	19.9	21.4	99	107	71-125	7	30					
Chloromethane	ug/L	ND	20	20	17.8	18.5	89	93	58-133	4	30					
cis-1,2-Dichloroethene	ug/L	ND	20	20	19.5	20.6	98	103	75-125	6	30					
cis-1,3-Dichloropropene	ug/L	ND	20	20	20.1	21.5	100	107	71-125	7	30					
Cyclohexane	ug/L	ND	100	100	107	112	107	112	73-148	5	30	N2				
Dibromochloromethane	ug/L	ND	20	20	24.4	24.6	122	123	75-125	1	30					
Dibromomethane	ug/L	ND	20	20	18.5	20.2	93	101	75-125	9	30					
Dichlorodifluoromethane	ug/L	ND	20	20	20.6	21.6	103	108	70-150	5	30					
Ethylbenzene	ug/L	ND	20	20	19.1	20.7	95	103	75-125	8	30					
Iodomethane	ug/L	ND	20	20	19.6	20.6	98	103	73-138	5	30					
Isopropylbenzene (Cumene)	ug/L	ND	20	20	20.0	21.7	100	108	75-125	8	30					
Methyl-tert-butyl ether	ug/L	ND	20	20	19.2	21.2	96	106	75-125	10	30					
Methylene Chloride	ug/L	ND	20	20	18.5	19.2	91	95	72-125	4	30					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10444316001		3036135		3036136		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
n-Hexane	ug/L	ND	50	50	57.9	57.7	116	115	37-150	0	30		
n-Propylbenzene	ug/L	ND	20	20	20.0	21.2	100	106	75-126	6	30		
Styrene	ug/L	ND	20	20	19.4	21.5	97	107	71-125	10	30		
Tetrachloroethene	ug/L	ND	20	20	19.1	19.8	94	98	75-125	4	30		
Tetrahydrofuran	ug/L	ND	200	200	187	204	93	102	75-150	9	30		
Toluene	ug/L	ND	20	20	19.0	20.6	95	103	74-125	8	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.6	20.1	98	100	75-125	2	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	22.9	25.1	114	125	70-125	9	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50.4	50.4	54.0	61.6	107	122	57-125	13	30		
Trichloroethene	ug/L	ND	20	20	19.9	21.2	99	106	75-125	6	30		
Trichlorofluoromethane	ug/L	ND	20	20	23.8	24.3	119	121	75-135	2	30		
Vinyl acetate	ug/L	ND	20	20	20.9	22.1	105	110	57-136	6	30		
Vinyl chloride	ug/L	ND	20	20	20.1	21.0	101	105	74-141	4	30		
Xylene (Total)	ug/L	ND	60	60	58.3	63.8	97	106	75-125	9	30		
1,2-Dichloroethane-d4 (S)	%						104	106	75-125				
4-Bromofluorobenzene (S)	%						100	100	75-125				
Toluene-d8 (S)	%						104	103	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

QC Batch: 560367 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
 Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881008, 10444881013, 10444881016

METHOD BLANK: 3042309 Matrix: Water
 Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881008, 10444881013, 10444881016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	09/01/18 12:49	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	09/01/18 12:49	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	09/01/18 12:49	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	09/01/18 12:49	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	09/01/18 12:49	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	09/01/18 12:49	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	09/01/18 12:49	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	09/01/18 12:49	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	09/01/18 12:49	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	09/01/18 12:49	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	09/01/18 12:49	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	09/01/18 12:49	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	09/01/18 12:49	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	09/01/18 12:49	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	09/01/18 12:49	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	09/01/18 12:49	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	09/01/18 12:49	
2-Hexanone	ug/L	<0.88	5.0	0.88	09/01/18 12:49	
2-Propanol	ug/L	<11.4	100	11.4	09/01/18 12:49	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	09/01/18 12:49	
Acetone	ug/L	<9.2	20.0	9.2	09/01/18 12:49	
Acrylonitrile	ug/L	<0.91	10.0	0.91	09/01/18 12:49	
Benzene	ug/L	<0.10	0.50	0.10	09/01/18 12:49	
Bromochloromethane	ug/L	<0.27	1.0	0.27	09/01/18 12:49	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	09/01/18 12:49	
Bromoform	ug/L	<0.80	4.0	0.80	09/01/18 12:49	
Bromomethane	ug/L	<1.8	4.0	1.8	09/01/18 12:49	
Carbon disulfide	ug/L	<0.078	1.0	0.078	09/01/18 12:49	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	09/01/18 12:49	
Chlorobenzene	ug/L	<0.17	0.50	0.17	09/01/18 12:49	
Chloroethane	ug/L	<0.49	1.0	0.49	09/01/18 12:49	
Chloroform	ug/L	<0.45	1.0	0.45	09/01/18 12:49	
Chloromethane	ug/L	<0.16	4.0	0.16	09/01/18 12:49	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	09/01/18 12:49	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	09/01/18 12:49	MN
Cyclohexane	ug/L	<0.54	5.0	0.54	09/01/18 12:49	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	09/01/18 12:49	MN
Dibromomethane	ug/L	<0.16	1.0	0.16	09/01/18 12:49	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	09/01/18 12:49	
Ethylbenzene	ug/L	<0.14	0.50	0.14	09/01/18 12:49	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

METHOD BLANK: 3042309

Matrix: Water

Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881008, 10444881013, 10444881016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iodomethane	ug/L	<0.82	4.0	0.82	09/01/18 12:49	
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	09/01/18 12:49	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	09/01/18 12:49	
Methylene Chloride	ug/L	<0.98	4.0	0.98	09/01/18 12:49	
n-Hexane	ug/L	<0.93	10.0	0.93	09/01/18 12:49	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	09/01/18 12:49	
Styrene	ug/L	<0.19	1.0	0.19	09/01/18 12:49	MN
Tetrachloroethane	ug/L	<0.17	0.50	0.17	09/01/18 12:49	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	09/01/18 12:49	
Toluene	ug/L	<0.083	0.50	0.083	09/01/18 12:49	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	09/01/18 12:49	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	09/01/18 12:49	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	09/01/18 12:49	
Trichloroethene	ug/L	<0.15	0.40	0.15	09/01/18 12:49	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	09/01/18 12:49	
Vinyl acetate	ug/L	<1.1	10.0	1.1	09/01/18 12:49	
Vinyl chloride	ug/L	<0.092	0.20	0.092	09/01/18 12:49	
Xylene (Total)	ug/L	<0.31	1.5	0.31	09/01/18 12:49	
1,2-Dichloroethane-d4 (S)	%	102	75-125		09/01/18 12:49	
4-Bromofluorobenzene (S)	%	103	75-125		09/01/18 12:49	
Toluene-d8 (S)	%	101	75-125		09/01/18 12:49	

LABORATORY CONTROL SAMPLE: 3042310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.9	114	75-125	
1,1,1-Trichloroethane	ug/L	20	21.2	106	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	75-125	
1,1,2-Trichloroethane	ug/L	20	22.4	112	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.9	105	72-125	
1,1-Dichloroethane	ug/L	20	21.4	107	75-125	
1,1-Dichloroethene	ug/L	20	20.5	103	73-125	
1,2,3-Trichloropropane	ug/L	20	21.6	108	75-125	
1,2,4-Trimethylbenzene	ug/L	20	23.1	116	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.4	102	75-125	
1,2-Dichlorobenzene	ug/L	20	21.4	107	75-125	
1,2-Dichloroethane	ug/L	20	20.4	102	75-125	
1,2-Dichloropropane	ug/L	20	20.5	102	75-125	
1,4-Dichlorobenzene	ug/L	20	21.1	106	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	441	110	75-125	
2-Butanone (MEK)	ug/L	100	102	102	65-126	
2-Hexanone	ug/L	100	126	126	75-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

LABORATORY CONTROL SAMPLE: 3042310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/L	200	220	110	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	75-131	
Acetone	ug/L	100	104	104	68-150	
Acrylonitrile	ug/L	202	211	104	75-125	
Benzene	ug/L	20	21.2	106	75-125	
Bromochloromethane	ug/L	20	21.9	110	75-125	
Bromodichloromethane	ug/L	20	21.2	106	75-125	
Bromoform	ug/L	20	20.3	101	70-125	
Bromomethane	ug/L	20	16.2	81	30-145	
Carbon disulfide	ug/L	20	19.3	96	67-125	
Carbon tetrachloride	ug/L	20	20.6	103	75-125	
Chlorobenzene	ug/L	20	21.1	106	75-125	
Chloroethane	ug/L	20	22.1	110	73-131	
Chloroform	ug/L	20	20.8	104	75-125	
Chloromethane	ug/L	20	20.5	103	52-132	
cis-1,2-Dichloroethene	ug/L	20	21.5	107	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.2	96	75-125	
Cyclohexane	ug/L	100	103	103	66-125 N2	
Dibromochloromethane	ug/L	20	19.4	97	75-125	
Dibromomethane	ug/L	20	21.1	106	75-125	
Dichlorodifluoromethane	ug/L	20	19.4	97	64-127	
Ethylbenzene	ug/L	20	21.3	106	75-125	
Iodomethane	ug/L	20	19.3	97	72-127	
Isopropylbenzene (Cumene)	ug/L	20	21.3	106	75-125	
Methyl-tert-butyl ether	ug/L	20	21.0	105	75-125	
Methylene Chloride	ug/L	20	19.8	99	72-125	
n-Hexane	ug/L	50	44.6	89	49-138	
n-Propylbenzene	ug/L	20	21.5	107	75-125	
Styrene	ug/L	20	19.8	99	75-125	
Tetrachloroethene	ug/L	20	20.4	102	75-125	
Tetrahydrofuran	ug/L	200	227	113	64-150	
Toluene	ug/L	20	20.9	105	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.7	98	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	46.6	93	57-126	
Trichloroethene	ug/L	20	21.5	108	75-125	
Trichlorofluoromethane	ug/L	20	20.9	105	74-126	
Vinyl acetate	ug/L	20	17.8	89	72-129	
Vinyl chloride	ug/L	20	21.0	105	71-130	
Xylene (Total)	ug/L	60	66.9	112	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Toluene-d8 (S)	%			101	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10444766002		3042311		3042312		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,1,2-Tetrachloroethane	ug/L	<0.20	20	20	22.1	22.4	111	112	75-125	1	30		
1,1,1-Trichloroethane	ug/L	<0.14	20	20	21.7	21.5	109	108	75-129	1	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.17	20	20	20.1	19.3	100	97	75-125	4	30		
1,1,2-Trichloroethane	ug/L	<0.18	20	20	21.2	21.1	106	106	75-125	0	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	20	20	21.7	21.2	109	106	75-136	2	30		
1,1-Dichloroethane	ug/L	<0.17	20	20	22.3	21.6	111	108	75-125	3	30		
1,1-Dichloroethene	ug/L	<0.16	20	20	22.7	22.3	114	112	75-127	2	30		
1,2,3-Trichloropropane	ug/L	<0.26	20	20	19.5	19.4	98	97	75-125	1	30		
1,2,4-Trimethylbenzene	ug/L	<0.20	20	20	22.1	21.8	110	109	71-125	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	47.3	44.7	95	89	61-127	6	30		
1,2-Dibromoethane (EDB)	ug/L	<0.24	20	20	19.3	19.9	96	99	75-125	3	30		
1,2-Dichlorobenzene	ug/L	<0.14	20	20	20.1	19.8	101	99	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.22	20	20	19.8	19.7	99	99	69-125	1	30		
1,2-Dichloropropane	ug/L	<0.16	20	20	20.9	20.1	105	101	75-125	4	30		
1,4-Dichlorobenzene	ug/L	<0.17	20	20	19.9	20.0	99	100	74-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	400	400	392	365	98	91	67-128	7	30		
2-Butanone (MEK)	ug/L	<0.99	100	100	99.2	99.2	99	99	59-125	0	30		
2-Hexanone	ug/L	<0.88	100	100	116	106	116	106	68-138	9	30		
2-Propanol	ug/L	<11.4	200	200	184	182	92	91	44-150	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	100	100	107	104	107	104	73-125	3	30		
Acetone	ug/L	<9.2	100	100	97.2	96.6	97	97	75-150	1	30		
Acrylonitrile	ug/L	<0.91	202	202	199	195	98	97	69-127	2	30		
Benzene	ug/L	<0.10	20	20	21.5	21.3	108	106	74-125	1	30		
Bromochloromethane	ug/L	<0.27	20	20	21.6	21.5	108	107	75-125	1	30		
Bromodichloromethane	ug/L	<0.22	20	20	22.0	20.7	110	103	75-125	6	30		
Bromoform	ug/L	<0.80	20	20	19.2	19.3	96	97	68-125	1	30		
Bromomethane	ug/L	<1.8	20	20	19.3	21.1	96	106	37-149	9	30		
Carbon disulfide	ug/L	<0.078	20	20	24.9	24.4	124	122	66-139	2	30		
Carbon tetrachloride	ug/L	<0.19	20	20	21.7	21.9	109	109	75-127	1	30		
Chlorobenzene	ug/L	<0.17	20	20	20.9	20.2	104	101	75-125	3	30		
Chloroethane	ug/L	<0.49	20	20	23.7	23.2	119	116	73-134	2	30		
Chloroform	ug/L	<0.45	20	20	19.6	19.4	98	97	71-125	1	30		
Chloromethane	ug/L	<0.16	20	20	22.8	22.3	114	112	58-133	2	30		
cis-1,2-Dichloroethene	ug/L	<0.15	20	20	21.5	21.2	107	106	75-125	1	30		
cis-1,3-Dichloropropene	ug/L	<0.20	20	20	19.5	18.7	98	94	71-125	4	30		
Cyclohexane	ug/L	<0.54	100	100	116	113	116	113	73-148	3	30 N2		
Dibromochloromethane	ug/L	<0.12	20	20	18.3	19.4	91	97	75-125	6	30		
Dibromomethane	ug/L	<0.16	20	20	22.4	21.7	112	109	75-125	3	30		
Dichlorodifluoromethane	ug/L	<0.23	20	20	20.2	19.7	101	98	70-150	3	30		
Ethylbenzene	ug/L	<0.14	20	20	21.2	21.0	106	105	75-125	1	30		
Iodomethane	ug/L	<0.82	20	20	21.1	20.8	105	104	73-138	1	30		
Isopropylbenzene (Cumene)	ug/L	<0.18	20	20	20.7	20.8	104	104	75-125	0	30		
Methyl-tert-butyl ether	ug/L	<0.16	20	20	20.4	19.9	102	99	75-125	2	30		
Methylene Chloride	ug/L	<0.98	20	20	18.3	18.1	91	90	72-125	1	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10444766002		3042311		3042312		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
n-Hexane	ug/L	<0.93	50	50	51.1	49.0	102	98	37-150	4	30			
n-Propylbenzene	ug/L	<0.10	20	20	20.9	20.8	104	104	75-126	0	30			
Styrene	ug/L	<0.19	20	20	19.0	18.6	95	93	71-125	2	30			
Tetrachloroethene	ug/L	<0.17	20	20	20.2	20.3	101	101	75-125	0	30			
Tetrahydrofuran	ug/L	<2.2	200	200	214	209	107	104	75-150	2	30			
Toluene	ug/L	<0.083	20	20	20.5	20.3	103	102	74-125	1	30			
trans-1,2-Dichloroethene	ug/L	<0.12	20	20	20.7	20.4	104	102	75-125	2	30			
trans-1,3-Dichloropropene	ug/L	<0.18	20	20	18.5	18.1	93	91	70-125	2	30			
trans-1,4-Dichloro-2-butene	ug/L	<2.0	50.4	50.4	42.4	42.1	84	84	57-125	1	30			
Trichloroethene	ug/L	<0.15	20	20	23.4	22.4	117	112	75-125	4	30			
Trichlorofluoromethane	ug/L	<0.23	20	20	23.2	22.9	116	115	75-135	1	30			
Vinyl acetate	ug/L	<1.1	20	20	18.7	18.3	93	91	57-136	2	30			
Vinyl chloride	ug/L	<0.092	20	20	23.5	22.9	118	115	74-141	3	30			
Xylene (Total)	ug/L	<0.31	60	60	66.3	64.8	111	108	75-125	2	30			
1,2-Dichloroethane-d4 (S)	%						101	98	75-125					
4-Bromofluorobenzene (S)	%						99	100	75-125					
Toluene-d8 (S)	%						100	99	75-125					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

QC Batch: 560434

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV LL Water

Associated Lab Samples: 10444881022

METHOD BLANK: 3042998

Matrix: Water

Associated Lab Samples: 10444881022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	09/03/18 14:28	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	09/03/18 14:28	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	09/03/18 14:28	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	09/03/18 14:28	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	09/03/18 14:28	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	09/03/18 14:28	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	09/03/18 14:28	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	09/03/18 14:28	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	09/03/18 14:28	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	09/03/18 14:28	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	09/03/18 14:28	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	09/03/18 14:28	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	09/03/18 14:28	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	09/03/18 14:28	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	09/03/18 14:28	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	09/03/18 14:28	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	09/03/18 14:28	
2-Hexanone	ug/L	<0.88	5.0	0.88	09/03/18 14:28	
2-Propanol	ug/L	<11.4	100	11.4	09/03/18 14:28	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	09/03/18 14:28	
Acetone	ug/L	<9.2	20.0	9.2	09/03/18 14:28	
Acrylonitrile	ug/L	<0.91	10.0	0.91	09/03/18 14:28	
Benzene	ug/L	<0.10	0.50	0.10	09/03/18 14:28	
Bromochloromethane	ug/L	<0.27	1.0	0.27	09/03/18 14:28	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	09/03/18 14:28	
Bromoform	ug/L	<0.80	4.0	0.80	09/03/18 14:28	
Bromomethane	ug/L	<1.8	4.0	1.8	09/03/18 14:28	
Carbon disulfide	ug/L	0.082J	1.0	0.078	09/03/18 14:28	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	09/03/18 14:28	
Chlorobenzene	ug/L	<0.17	0.50	0.17	09/03/18 14:28	
Chloroethane	ug/L	<0.49	1.0	0.49	09/03/18 14:28	
Chloroform	ug/L	<0.45	1.0	0.45	09/03/18 14:28	
Chloromethane	ug/L	<0.16	4.0	0.16	09/03/18 14:28	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	09/03/18 14:28	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	09/03/18 14:28	MN
Cyclohexane	ug/L	<0.54	5.0	0.54	09/03/18 14:28	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	09/03/18 14:28	MN
Dibromomethane	ug/L	<0.16	1.0	0.16	09/03/18 14:28	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	09/03/18 14:28	
Ethylbenzene	ug/L	<0.14	0.50	0.14	09/03/18 14:28	
Iodomethane	ug/L	<0.82	4.0	0.82	09/03/18 14:28	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

METHOD BLANK: 3042998

Matrix: Water

Associated Lab Samples: 10444881022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	09/03/18 14:28	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	09/03/18 14:28	
Methylene Chloride	ug/L	<0.98	4.0	0.98	09/03/18 14:28	
n-Hexane	ug/L	<0.93	10.0	0.93	09/03/18 14:28	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	09/03/18 14:28	
Styrene	ug/L	<0.19	1.0	0.19	09/03/18 14:28	MN
Tetrachloroethene	ug/L	<0.17	0.50	0.17	09/03/18 14:28	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	09/03/18 14:28	
Toluene	ug/L	<0.083	0.50	0.083	09/03/18 14:28	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	09/03/18 14:28	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	09/03/18 14:28	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	09/03/18 14:28	
Trichloroethene	ug/L	<0.15	0.40	0.15	09/03/18 14:28	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	09/03/18 14:28	
Vinyl acetate	ug/L	<1.1	10.0	1.1	09/03/18 14:28	
Vinyl chloride	ug/L	<0.092	0.20	0.092	09/03/18 14:28	
Xylene (Total)	ug/L	<0.31	1.5	0.31	09/03/18 14:28	
1,2-Dichloroethane-d4 (S)	%	99	75-125		09/03/18 14:28	
4-Bromofluorobenzene (S)	%	105	75-125		09/03/18 14:28	
Toluene-d8 (S)	%	100	75-125		09/03/18 14:28	

LABORATORY CONTROL SAMPLE: 3042999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	25.0	125	75-125	
1,1,1-Trichloroethane	ug/L	20	21.9	109	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	75-125	
1,1,2-Trichloroethane	ug/L	20	24.0	120	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.2	106	72-125	
1,1-Dichloroethane	ug/L	20	22.2	111	75-125	
1,1-Dichloroethene	ug/L	20	21.4	107	73-125	
1,2,3-Trichloropropane	ug/L	20	20.3	101	75-125	
1,2,4-Trimethylbenzene	ug/L	20	22.5	112	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	49.3	99	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	22.2	111	75-125	
1,2-Dichlorobenzene	ug/L	20	20.6	103	75-125	
1,2-Dichloroethane	ug/L	20	21.1	105	75-125	
1,2-Dichloropropane	ug/L	20	21.9	109	75-125	
1,4-Dichlorobenzene	ug/L	20	20.4	102	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	435	109	75-125	
2-Butanone (MEK)	ug/L	100	102	102	65-126	
2-Hexanone	ug/L	100	137	137	75-134 L3	
2-Propanol	ug/L	200	204	102	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	119	119	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

LABORATORY CONTROL SAMPLE: 3042999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	110	110	68-150	
Acrylonitrile	ug/L	202	213	106	75-125	
Benzene	ug/L	20	21.8	109	75-125	
Bromochloromethane	ug/L	20	22.3	112	75-125	
Bromodichloromethane	ug/L	20	22.8	114	75-125	
Bromoform	ug/L	20	21.8	109	70-125	
Bromomethane	ug/L	20	20.6	103	30-145	
Carbon disulfide	ug/L	20	25.5	127	67-125	L1
Carbon tetrachloride	ug/L	20	21.1	106	75-125	
Chlorobenzene	ug/L	20	21.8	109	75-125	
Chloroethane	ug/L	20	24.0	120	73-131	
Chloroform	ug/L	20	20.6	103	75-125	
Chloromethane	ug/L	20	22.6	113	52-132	
cis-1,2-Dichloroethene	ug/L	20	22.1	110	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.8	104	75-125	
Cyclohexane	ug/L	100	112	112	66-125	N2
Dibromochloromethane	ug/L	20	21.5	108	75-125	
Dibromomethane	ug/L	20	23.4	117	75-125	
Dichlorodifluoromethane	ug/L	20	19.4	97	64-127	
Ethylbenzene	ug/L	20	22.8	114	75-125	
Iodomethane	ug/L	20	21.8	109	72-127	
Isopropylbenzene (Cumene)	ug/L	20	22.3	112	75-125	
Methyl-tert-butyl ether	ug/L	20	22.1	111	75-125	
Methylene Chloride	ug/L	20	19.3	96	72-125	
n-Hexane	ug/L	50	67.9	136	49-138	
n-Propylbenzene	ug/L	20	21.0	105	75-125	
Styrene	ug/L	20	20.9	104	75-125	
Tetrachloroethene	ug/L	20	22.4	112	75-125	
Tetrahydrofuran	ug/L	200	251	125	64-150	
Toluene	ug/L	20	22.9	114	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	75-125	
trans-1,3-Dichloropropene	ug/L	20	22.4	112	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	51.1	101	57-126	
Trichloroethene	ug/L	20	23.1	116	75-125	
Trichlorofluoromethane	ug/L	20	22.4	112	74-126	
Vinyl acetate	ug/L	20	21.5	108	72-129	
Vinyl chloride	ug/L	20	22.3	112	71-130	
Xylene (Total)	ug/L	60	71.4	119	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Toluene-d8 (S)	%			107	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10446122001		3044099		3044100		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,1,2-Tetrachloroethane	ug/L	<0.50	20	20	21.7	22.3	109	112	75-125	3	30		
1,1,1-Trichloroethane	ug/L	<0.50	20	20	22.2	22.4	111	112	75-129	1	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.50	20	20	17.5	19.1	88	96	75-125	9	30		
1,1,2-Trichloroethane	ug/L	<0.50	20	20	20.1	21.2	100	106	75-125	5	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	20	20	23.3	23.1	116	116	75-136	0	30		
1,1-Dichloroethane	ug/L	<0.50	20	20	22.0	22.7	110	113	75-125	3	30		
1,1-Dichloroethene	ug/L	<0.50	20	20	23.6	23.6	118	118	75-127	0	30		
1,2,3-Trichloropropane	ug/L	<4.0	20	20	18.1	19.3	91	97	75-125	7	30		
1,2,4-Trimethylbenzene	ug/L	<0.50	20	20	21.2	22.6	106	113	71-125	6	30		
1,2-Dibromo-3-chloropropane	ug/L	<4.0	50	50	43.2	46.0	86	92	61-127	6	30		
1,2-Dibromoethane (EDB)	ug/L	<0.50	20	20	19.6	19.3	98	96	75-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.50	20	20	18.5	19.7	93	98	75-125	6	30		
1,2-Dichloroethane	ug/L	<0.50	20	20	18.9	19.5	95	98	69-125	3	30		
1,2-Dichloropropane	ug/L	<4.0	20	20	18.3	19.7	92	99	75-125	7	30		
1,4-Dichlorobenzene	ug/L	<0.50	20	20	18.9	19.9	94	99	74-125	5	30		
1,4-Dioxane (p-Dioxane)	ug/L	<200	400	400	398	387	100	97	67-128	3	30		
2-Butanone (MEK)	ug/L	<5.0	100	100	85.0	92.8	85	93	59-125	9	30		
2-Hexanone	ug/L	<5.0	100	100	97.9	118	98	118	68-138	18	30		
2-Propanol	ug/L	<100	200	200	179	204	77	89	44-150	13	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	100	100	94.4	103	94	103	73-125	8	30		
Acetone	ug/L	<20.0	100	100	98.7	103	96	100	75-150	4	30		
Acrylonitrile	ug/L	<10.0	202	202	183	195	91	96	69-127	6	30		
Benzene	ug/L	<0.50	20	20	21.7	21.9	109	110	74-125	1	30		
Bromochloromethane	ug/L	<1.0	20	20	20.8	22.0	104	110	75-125	6	30		
Bromodichloromethane	ug/L	<0.50	20	20	19.7	20.8	98	104	75-125	6	30		
Bromoform	ug/L	<4.0	20	20	18.6	19.6	93	98	68-125	5	30		
Bromomethane	ug/L	<4.0	20	20	22.6	22.9	113	115	37-149	2	30		
Carbon disulfide	ug/L	<1.0	20	20	26.9	26.9	134	134	66-139	0	30		
Carbon tetrachloride	ug/L	<0.50	20	20	22.7	22.7	114	114	75-127	0	30		
Chlorobenzene	ug/L	<0.50	20	20	20.3	21.0	102	105	75-125	3	30		
Chloroethane	ug/L	<1.0	20	20	23.3	23.4	116	117	73-134	0	30		
Chloroform	ug/L	<1.0	20	20	19.5	20.0	97	100	71-125	3	30		
Chloromethane	ug/L	<4.0	20	20	21.8	21.7	109	108	58-133	0	30		
cis-1,2-Dichloroethene	ug/L	<0.50	20	20	21.7	22.4	108	112	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	<1.0	20	20	18.9	19.7	94	98	71-125	4	30		
Cyclohexane	ug/L	<5.0	100	100	120	122	120	122	73-148	1	30 N2		
Dibromochloromethane	ug/L	<1.0	20	20	18.0	18.7	90	94	75-125	4	30		
Dibromomethane	ug/L	<1.0	20	20	19.2	20.3	96	101	75-125	6	30		
Dichlorodifluoromethane	ug/L	<1.0	20	20	20.1	20.2	101	101	70-150	0	30		
Ethylbenzene	ug/L	<0.50	20	20	21.4	21.9	107	110	75-125	3	30		
Iodomethane	ug/L	<4.0	20	20	21.8	21.7	109	109	73-138	1	30		
Isopropylbenzene (Cumene)	ug/L	<0.50	20	20	21.2	21.8	106	109	75-125	3	30		
Methyl-tert-butyl ether	ug/L	<0.50	20	20	19.3	20.4	96	102	75-125	6	30		
Methylene Chloride	ug/L	<4.0	20	20	17.7	18.3	89	91	72-125	3	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10446122001		3044099		3044100		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
n-Hexane	ug/L	<10.0	50	50	75.9	71.6	152	143	37-150	6	30	M1	
n-Propylbenzene	ug/L	<0.50	20	20	20.9	21.7	104	109	75-126	4	30		
Styrene	ug/L	<1.0	20	20	18.6	19.4	93	97	71-125	4	30		
Tetrachloroethene	ug/L	<0.50	20	20	21.5	21.6	108	108	75-125	0	30		
Tetrahydrofuran	ug/L	<10.0	200	200	225	231	113	116	75-150	3	30		
Toluene	ug/L	<0.50	20	20	21.4	21.8	107	109	74-125	2	30		
trans-1,2-Dichloroethene	ug/L	<0.50	20	20	21.3	21.0	107	105	75-125	1	30		
trans-1,3-Dichloropropene	ug/L	<1.0	20	20	19.0	19.8	95	99	70-125	4	30		
trans-1,4-Dichloro-2-butene	ug/L	<10.0	50.4	50.4	43.5	45.8	86	91	57-125	5	30		
Trichloroethene	ug/L	<0.40	20	20	23.0	23.6	115	118	75-125	3	30		
Trichlorofluoromethane	ug/L	<0.50	20	20	22.6	22.6	113	113	75-135	0	30		
Vinyl acetate	ug/L	<10.0	20	20	18.9	19.7	94	99	57-136	4	30		
Vinyl chloride	ug/L	<0.20	20	20	22.6	22.5	113	112	74-141	1	30		
Xylene (Total)	ug/L	<1.5	60	60	65.2	67.1	109	112	75-125	3	30		
1,2-Dichloroethane-d4 (S)	%						96	96	75-125				
4-Bromofluorobenzene (S)	%						101	102	75-125				
Toluene-d8 (S)	%						102	102	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

QC Project No.: 10444881

QC Batch: 560436 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
 Associated Lab Samples: 10444881006, 10444881007, 10444881009, 10444881010, 10444881011, 10444881012, 10444881014,
 10444881015, 10444881017, 10444881018, 10444881019, 10444881020, 10444881021, 10444881023,
 10444881024

METHOD BLANK: 3043002 Matrix: Water

Associated Lab Samples: 10444881006, 10444881007, 10444881009, 10444881010, 10444881011, 10444881012, 10444881014,
 10444881015, 10444881017, 10444881018, 10444881019, 10444881020, 10444881021, 10444881023,
 10444881024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	09/04/18 02:27	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	09/04/18 02:27	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	09/04/18 02:27	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	09/04/18 02:27	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	09/04/18 02:27	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	09/04/18 02:27	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	09/04/18 02:27	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	09/04/18 02:27	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	09/04/18 02:27	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	09/04/18 02:27	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	09/04/18 02:27	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	09/04/18 02:27	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	09/04/18 02:27	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	09/04/18 02:27	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	09/04/18 02:27	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	09/04/18 02:27	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	09/04/18 02:27	
2-Hexanone	ug/L	<0.88	5.0	0.88	09/04/18 02:27	
2-Propanol	ug/L	<11.4	100	11.4	09/04/18 02:27	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	09/04/18 02:27	
Acetone	ug/L	<9.2	20.0	9.2	09/04/18 02:27	
Acrylonitrile	ug/L	<0.91	10.0	0.91	09/04/18 02:27	
Benzene	ug/L	<0.10	0.50	0.10	09/04/18 02:27	
Bromochloromethane	ug/L	<0.27	1.0	0.27	09/04/18 02:27	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	09/04/18 02:27	
Bromoform	ug/L	<0.80	4.0	0.80	09/04/18 02:27	
Bromomethane	ug/L	<1.8	4.0	1.8	09/04/18 02:27	
Carbon disulfide	ug/L	<0.078	1.0	0.078	09/04/18 02:27	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	09/04/18 02:27	
Chlorobenzene	ug/L	<0.17	0.50	0.17	09/04/18 02:27	
Chloroethane	ug/L	<0.49	1.0	0.49	09/04/18 02:27	
Chloroform	ug/L	<0.45	1.0	0.45	09/04/18 02:27	
Chloromethane	ug/L	<0.16	4.0	0.16	09/04/18 02:27	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	09/04/18 02:27	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	09/04/18 02:27	MN
Cyclohexane	ug/L	<0.54	5.0	0.54	09/04/18 02:27	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	09/04/18 02:27	MN
Dibromomethane	ug/L	<0.16	1.0	0.16	09/04/18 02:27	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

METHOD BLANK: 3043002

Matrix: Water

Associated Lab Samples: 10444881006, 10444881007, 10444881009, 10444881010, 10444881011, 10444881012, 10444881014, 10444881015, 10444881017, 10444881018, 10444881019, 10444881020, 10444881021, 10444881023, 10444881024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	09/04/18 02:27	
Ethylbenzene	ug/L	<0.14	0.50	0.14	09/04/18 02:27	
Iodomethane	ug/L	<0.82	4.0	0.82	09/04/18 02:27	
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	09/04/18 02:27	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	09/04/18 02:27	
Methylene Chloride	ug/L	<0.98	4.0	0.98	09/04/18 02:27	
n-Hexane	ug/L	<0.93	10.0	0.93	09/04/18 02:27	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	09/04/18 02:27	
Styrene	ug/L	<0.19	1.0	0.19	09/04/18 02:27	MN
Tetrachloroethane	ug/L	<0.17	0.50	0.17	09/04/18 02:27	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	09/04/18 02:27	
Toluene	ug/L	<0.083	0.50	0.083	09/04/18 02:27	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	09/04/18 02:27	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	09/04/18 02:27	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	09/04/18 02:27	
Trichloroethene	ug/L	<0.15	0.40	0.15	09/04/18 02:27	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	09/04/18 02:27	
Vinyl acetate	ug/L	<1.1	10.0	1.1	09/04/18 02:27	
Vinyl chloride	ug/L	<0.092	0.20	0.092	09/04/18 02:27	
Xylene (Total)	ug/L	<0.31	1.5	0.31	09/04/18 02:27	
1,2-Dichloroethane-d4 (S)	%	102	75-125		09/04/18 02:27	
4-Bromofluorobenzene (S)	%	100	75-125		09/04/18 02:27	
Toluene-d8 (S)	%	99	75-125		09/04/18 02:27	

LABORATORY CONTROL SAMPLE: 3043003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.4	112	75-125	
1,1,1-Trichloroethane	ug/L	20	21.0	105	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	21.4	107	75-125	
1,1,2-Trichloroethane	ug/L	20	22.7	113	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.0	100	72-125	
1,1-Dichloroethane	ug/L	20	21.4	107	75-125	
1,1-Dichloroethene	ug/L	20	20.1	100	73-125	
1,2,3-Trichloropropane	ug/L	20	21.3	106	75-125	
1,2,4-Trimethylbenzene	ug/L	20	22.8	114	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.8	104	75-125	
1,2-Dichlorobenzene	ug/L	20	21.4	107	75-125	
1,2-Dichloroethane	ug/L	20	21.0	105	75-125	
1,2-Dichloropropane	ug/L	20	21.6	108	75-125	
1,4-Dichlorobenzene	ug/L	20	21.0	105	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

LABORATORY CONTROL SAMPLE: 3043003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	400	413	103	75-125	
2-Butanone (MEK)	ug/L	100	109	109	65-126	
2-Hexanone	ug/L	100	115	115	75-134	
2-Propanol	ug/L	200	198	99	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	75-131	
Acetone	ug/L	100	103	103	68-150	
Acrylonitrile	ug/L	202	214	106	75-125	
Benzene	ug/L	20	21.3	107	75-125	
Bromochloromethane	ug/L	20	21.9	109	75-125	
Bromodichloromethane	ug/L	20	22.3	111	75-125	
Bromoform	ug/L	20	20.0	100	70-125	
Bromomethane	ug/L	20	14.1	71	30-145	
Carbon disulfide	ug/L	20	19.4	97	67-125	
Carbon tetrachloride	ug/L	20	19.9	99	75-125	
Chlorobenzene	ug/L	20	21.1	106	75-125	
Chloroethane	ug/L	20	21.8	109	73-131	
Chloroform	ug/L	20	20.5	102	75-125	
Chloromethane	ug/L	20	20.4	102	52-132	
cis-1,2-Dichloroethene	ug/L	20	21.5	107	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.7	98	75-125	
Cyclohexane	ug/L	100	99.9	100	66-125 N2	
Dibromochloromethane	ug/L	20	19.4	97	75-125	
Dibromomethane	ug/L	20	22.3	112	75-125	
Dichlorodifluoromethane	ug/L	20	19.0	95	64-127	
Ethylbenzene	ug/L	20	21.1	105	75-125	
Iodomethane	ug/L	20	19.9	100	72-127	
Isopropylbenzene (Cumene)	ug/L	20	21.0	105	75-125	
Methyl-tert-butyl ether	ug/L	20	21.6	108	75-125	
Methylene Chloride	ug/L	20	18.1	90	72-125	
n-Hexane	ug/L	50	47.5	95	49-138	
n-Propylbenzene	ug/L	20	20.8	104	75-125	
Styrene	ug/L	20	19.7	99	75-125	
Tetrachloroethene	ug/L	20	19.7	99	75-125	
Tetrahydrofuran	ug/L	200	232	116	64-150	
Toluene	ug/L	20	20.8	104	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	75-125	
trans-1,3-Dichloropropene	ug/L	20	20.3	102	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	47.8	95	57-126	
Trichloroethene	ug/L	20	21.4	107	75-125	
Trichlorofluoromethane	ug/L	20	20.5	102	74-126	
Vinyl acetate	ug/L	20	20.3	101	72-129	
Vinyl chloride	ug/L	20	20.7	103	71-130	
Xylene (Total)	ug/L	60	66.7	111	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			100	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	3043004		3043005		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
1,1,1,2-Tetrachloroethane	ug/L	<0.20	20	20	23.1	23.6	116	118	75-125	2	30	
1,1,1-Trichloroethane	ug/L	<0.14	20	20	23.3	23.3	117	117	75-129	0	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	20	20	21.0	20.6	105	103	75-125	2	30	
1,1,2-Trichloroethane	ug/L	<0.18	20	20	22.0	22.7	110	114	75-125	3	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	20	20	23.7	23.8	118	119	75-136	0	30	
1,1-Dichloroethane	ug/L	<0.17	20	20	23.5	23.8	118	119	75-125	1	30	
1,1-Dichloroethene	ug/L	<0.16	20	20	24.1	24.2	121	121	75-127	0	30	
1,2,3-Trichloropropane	ug/L	<0.26	20	20	20.9	21.2	105	106	75-125	1	30	
1,2,4-Trimethylbenzene	ug/L	<0.20	20	20	23.5	23.8	118	119	71-125	1	30	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	49.0	48.3	98	97	61-127	1	30	
1,2-Dibromoethane (EDB)	ug/L	<0.24	20	20	20.0	21.5	100	108	75-125	7	30	
1,2-Dichlorobenzene	ug/L	<0.14	20	20	21.2	21.5	106	108	75-125	1	30	
1,2-Dichloroethane	ug/L	<0.22	20	20	21.4	21.5	107	108	69-125	1	30	
1,2-Dichloropropane	ug/L	<0.16	20	20	23.6	22.2	118	111	75-125	6	30	
1,4-Dichlorobenzene	ug/L	<0.17	20	20	20.9	21.5	105	107	74-125	3	30	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	400	400	390	385	98	96	67-128	1	30	
2-Butanone (MEK)	ug/L	<0.99	100	100	105	106	105	106	59-125	1	30	
2-Hexanone	ug/L	<0.88	100	100	122	113	122	113	68-138	8	30	
2-Propanol	ug/L	<11.4	200	200	185	193	92	97	44-150	5	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	100	100	113	111	113	111	73-125	2	30	
Acetone	ug/L	<9.2	100	100	106	107	106	107	75-150	1	30	
Acrylonitrile	ug/L	<0.91	202	202	212	207	105	102	69-127	2	30	
Benzene	ug/L	<0.10	20	20	22.9	23.3	114	116	74-125	2	30	
Bromochloromethane	ug/L	<0.27	20	20	23.1	23.4	115	117	75-125	1	30	
Bromodichloromethane	ug/L	<0.22	20	20	24.1	22.9	120	114	75-125	5	30	
Bromoform	ug/L	<0.80	20	20	19.9	20.6	99	103	68-125	3	30	
Bromomethane	ug/L	<1.8	20	20	17.2	19.3	86	96	37-149	11	30	
Carbon disulfide	ug/L	<0.078	20	20	26.8	26.7	134	133	66-139	0	30	
Carbon tetrachloride	ug/L	<0.19	20	20	23.1	23.3	115	117	75-127	1	30	
Chlorobenzene	ug/L	<0.17	20	20	21.7	22.2	108	111	75-125	2	30	
Chloroethane	ug/L	<0.49	20	20	25.6	24.3	128	122	73-134	5	30	
Chloroform	ug/L	<0.45	20	20	21.1	21.3	106	106	71-125	1	30	
Chloromethane	ug/L	<0.16	20	20	22.6	22.5	113	112	58-133	1	30	
cis-1,2-Dichloroethene	ug/L	<0.15	20	20	23.2	23.2	116	116	75-125	0	30	
cis-1,3-Dichloropropene	ug/L	<0.20	20	20	21.8	20.1	109	100	71-125	8	30	
Cyclohexane	ug/L	<0.54	100	100	124	124	124	124	73-148	0	30	N2
Dibromochloromethane	ug/L	<0.12	20	20	19.0	19.1	95	95	75-125	0	30	
Dibromomethane	ug/L	<0.16	20	20	24.1	23.1	121	115	75-125	4	30	
Dichlorodifluoromethane	ug/L	<0.23	20	20	21.9	21.1	110	106	70-150	4	30	
Ethylbenzene	ug/L	<0.14	20	20	22.3	22.9	111	114	75-125	3	30	
Iodomethane	ug/L	<0.82	20	20	23.1	23.1	115	115	73-138	0	30	
Isopropylbenzene (Cumene)	ug/L	<0.18	20	20	22.1	22.5	111	113	75-125	2	30	
Methyl-tert-butyl ether	ug/L	<0.16	20	20	21.7	21.7	109	109	75-125	0	30	
Methylene Chloride	ug/L	<0.98	20	20	19.8	19.8	98	98	72-125	0	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Parameter	Units	10444517002		3043004		3043005		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
n-Hexane	ug/L	<0.93	50	50	58.4	64.0	117	128	37-150	9	30			
n-Propylbenzene	ug/L	<0.10	20	20	22.3	22.8	111	114	75-126	2	30			
Styrene	ug/L	<0.19	20	20	20.1	20.5	101	102	71-125	2	30			
Tetrachloroethene	ug/L	<0.17	20	20	21.8	21.7	108	108	75-125	0	30			
Tetrahydrofuran	ug/L	<2.2	200	200	223	233	111	116	75-150	4	30			
Toluene	ug/L	<0.083	20	20	21.7	22.5	108	112	74-125	4	30			
trans-1,2-Dichloroethene	ug/L	<0.12	20	20	22.1	22.0	111	110	75-125	0	30			
trans-1,3-Dichloropropene	ug/L	<0.18	20	20	19.7	20.2	99	101	70-125	2	30			
trans-1,4-Dichloro-2-butene	ug/L	<2.0	50.4	50.4	46.7	46.5	93	92	57-125	0	30			
Trichloroethene	ug/L	<0.15	20	20	23.9	24.0	119	120	75-125	0	30			
Trichlorofluoromethane	ug/L	<0.23	20	20	24.6	23.9	123	120	75-135	3	30			
Vinyl acetate	ug/L	<1.1	20	20	20.5	20.8	103	104	57-136	1	30			
Vinyl chloride	ug/L	<0.092	20	20	24.3	23.7	122	118	74-141	3	30			
Xylene (Total)	ug/L	<0.31	60	60	69.2	69.5	115	116	75-125	0	30			
1,2-Dichloroethane-d4 (S)	%						101	98	75-125					
4-Bromofluorobenzene (S)	%						101	101	75-125					
Toluene-d8 (S)	%						100	99	75-125					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

QC Batch: 560657 Analysis Method: EPA 353.2
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
 Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881006, 10444881007

METHOD BLANK: 3043849 Matrix: Water
 Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881006, 10444881007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0040J	0.010	0.0031	09/04/18 16:21	

METHOD BLANK: 3043867 Matrix: Water
 Associated Lab Samples: 10444881001, 10444881002, 10444881003, 10444881004, 10444881005, 10444881006, 10444881007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0060J	0.010	0.0031	09/04/18 16:24	

LABORATORY CONTROL SAMPLE: 3043850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.31	92	90-110	

LABORATORY CONTROL SAMPLE: 3043868

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	95	90-110	

MATRIX SPIKE SAMPLE: 3043851

Parameter	Units	10444823002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.032	.33	0.34	92	90-110	

MATRIX SPIKE SAMPLE: 3043853

Parameter	Units	10444843002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.30	.33	0.64	103	90-110	

MATRIX SPIKE SAMPLE: 3043854

Parameter	Units	10444881001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	4.1	.33	4.4	81	90-110	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

SAMPLE DUPLICATE: 3043852

Parameter	Units	10444823002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.032	0.032	0	20	

SAMPLE DUPLICATE: 3043855

Parameter	Units	10444881002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	3.9	3.8	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

QC Batch: 560715

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, preserved

Associated Lab Samples: 10444881008, 10444881009, 10444881010, 10444881011, 10444881012, 10444881013, 10444881019, 10444881020, 10444881022, 10444881024

METHOD BLANK: 3044090

Matrix: Water

Associated Lab Samples: 10444881008, 10444881009, 10444881010, 10444881011, 10444881012, 10444881013, 10444881019, 10444881020, 10444881022, 10444881024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0031	0.010	0.0031	09/05/18 12:29	

METHOD BLANK: 3044092

Matrix: Water

Associated Lab Samples: 10444881008, 10444881009, 10444881010, 10444881011, 10444881012, 10444881013, 10444881019, 10444881020, 10444881022, 10444881024

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0070J	0.010	0.0031	09/05/18 12:32	

LABORATORY CONTROL SAMPLE: 3044091

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.32	95	90-110	

LABORATORY CONTROL SAMPLE: 3044093

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	.33	0.35	104	90-110	

MATRIX SPIKE SAMPLE: 3044094

Parameter	Units	10444881008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.4	.33	2.6	63	90-110	M6

MATRIX SPIKE SAMPLE: 3044096

Parameter	Units	10444881013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	4.5	.33	4.6	42	90-110	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

SAMPLE DUPLICATE: 3044095

Parameter	Units	10444881009 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0070J	0.0070J		20	

SAMPLE DUPLICATE: 3044097

Parameter	Units	10444881019 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	6.7	6.5	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-MT Pace Analytical Services - Montana

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326 Bozeman Landfill

Pace Project No.: 10444881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10444881001	LF-2	EPA 8260B	560367		
10444881002	LF-3	EPA 8260B	560367		
10444881003	MW-4	EPA 8260B	560367		
10444881004	MW-5	EPA 8260B	560367		
10444881005	MW-6	EPA 8260B	560367		
10444881006	MW-7A	EPA 8260B	560436		
10444881007	MW-8A	EPA 8260B	560436		
10444881008	MW-9A	EPA 8260B	560367		
10444881009	MW-10	EPA 8260B	560436		
10444881010	MW-11	EPA 8260B	560436		
10444881011	MW-12	EPA 8260B	560436		
10444881012	MW-13	EPA 8260B	560436		
10444881013	MW-15	EPA 8260B	560367		
10444881014	MW-17	EPA 8260B	560436		
10444881015	MW-18	EPA 8260B	560436		
10444881016	MW-19	EPA 8260B	560367		
10444881017	MW-20	EPA 8260B	560436		
10444881018	MW-24	EPA 8260B	560436		
10444881019	MW-27	EPA 8260B	560436		
10444881020	Mclihatton Seep	EPA 8260B	560436		
10444881021	Valley View Vet Well	EPA 8260B	560436		
10444881022	DUP 1	EPA 8260B	560434		
10444881023	DUP 2	EPA 8260B	560436		
10444881024	DUP 3	EPA 8260B	560436		
10444881025	TRIP BLANK 1	EPA 8260B	559205		
10444881026	TRIP BLANK 2	EPA 8260B	559205		
10444881001	LF-2	EPA 353.2	560657		
10444881002	LF-3	EPA 353.2	560657		
10444881003	MW-4	EPA 353.2	560657		
10444881004	MW-5	EPA 353.2	560657		
10444881005	MW-6	EPA 353.2	560657		
10444881006	MW-7A	EPA 353.2	560657		
10444881007	MW-8A	EPA 353.2	560657		
10444881008	MW-9A	EPA 353.2	560715		
10444881009	MW-10	EPA 353.2	560715		
10444881010	MW-11	EPA 353.2	560715		
10444881011	MW-12	EPA 353.2	560715		
10444881012	MW-13	EPA 353.2	560715		
10444881013	MW-15	EPA 353.2	560715		
10444881019	MW-27	EPA 353.2	560715		
10444881020	Mclihatton Seep	EPA 353.2	560715		
10444881022	DUP 1	EPA 353.2	560715		
10444881024	DUP 3	EPA 353.2	560715		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326 Bozeman Landfill
Pace Project No.: 10444881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
---------------	------------------	------------------------	-----------------	--------------------------	-------------------------

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

WO#: 10444881



CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical
www.paceanalytical.com

Section A Required Client Information:		Section B Report To: Mark Pearson		Section C Invoice Information:	
Company: Tetra Tech	Address: 851 Bridger Drive, Suite 6	Copy To:	Attention: Deb Lloyd	Company Name: (same as Section A)	Regulatory Agency: MT
Email To: mark.pearson@tetratech.com	Bozeman, MT 59715	Purchase Order No.:		Address:	NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
Phone: 406-582-8780 Fax: 406-582-8790	Project Name: Bozeman Landfill	Project Number: 114-710326	Pace Project Manager: Beverly Faraday	Pace Quote Reference:	UST <input type="checkbox"/> RCRA <input type="checkbox"/>
Requested Due Date/TAT: 10 day			Pace Profile #: 21198	Site Location:	OTHER <input type="checkbox"/>

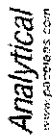
ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER WASTE WATER PRODUCT SOIL/SOLID OIL WIPE AIR OTHER TISSUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	WT	RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		DATE	TIME	DATE	TIME	SAMPLE CONDITIONS
		COMPOSITE START	COMPOSITE END/GRAB				DATE	TIME	DATE	TIME					
1	LF-2			G			8/22	1640					8/23/18	1500	Y
2	LF-3			G			8/22	1550					8/23/18	1500	Y
3	MW-4			G			8/22	1220					8/23/18	1500	Y
4	MW-5			G			8/22	1100					8/23/18	1500	Y
5	MW-6			G			8/22	1500					8/23/18	1500	Y
6	MW-7A			G			8/22	1020					8/23/18	1500	Y
7	MW-8A			G			8/22	945					8/23/18	1500	Y
8	MW-9A			G			8/22	1330					8/23/18	1500	Y
9	MW-10			G			8/22	1000					8/23/18	1500	Y
10	MW-11			G			8/22	1200					8/23/18	1500	Y
11	MW-12			G			8/22	1250					8/23/18	1500	Y
12	MW-13			G			8/23	1100					8/23/18	1500	Y

Section D Requested Client Information		Requested Analysis Filtered (Y/N)		Requested Analysis Filtered (Y/N)	
SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE		Preservatives		Residual Chlorine (Y/N)	
8260 LL VOCs		H ₂ SO ₄		Pace Project No./ Lab I.D.	
6020 Metals		HNO ₃		001	
7470 Mercury		HCl		002	
353.2 N+N		NaOH		003	
2540D TSS		Na ₂ S ₂ O ₃		004	
		Methanol		005	
		Other		006	
		Analysis Test ↓		007	
		# OF CONTAINERS		008	
		SAMPLE TEMP AT COLLECTION		009	
				010	
				011	
				012	

Section E SAMPLER NAME AND SIGNATURE		Section F DATE SIGNED (MM/DD/YY)	
PRINT Name of SAMPLER: Mark Pearson		8/23/18	
SIGNATURE of SAMPLER: <i>Mark Pearson</i>			
PRINT Name of SAMPLER: Mark Pearson		8/23/18	
SIGNATURE of SAMPLER: <i>Mark Pearson</i>			

CHAIN-OF-CUSTODY / Analytical Request Document

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



Section A
Required Client Information:
 Company: Tetra Tech
 Address: 851 Bridger Drive, Suite 6
 Bozeman, MT 59715
 Email To: mark.pearson@tetratech.com
 Phone: 406-582-8780 Fax: 406-582-8790
 Requested Due Date/TAT: 10 day

Section B
Required Project Information:
 Report To: Mark Pearson
 Copy To:
 Purchase Order No.:
 Project Name: Bozeman Landfill
 Project Number: 114-710326-D

Section C
Invoice Information:
 Attention: Deb Lloyd
 Company Name: (same as Section A)
 Address:
 Pace Quote Reference:
 Pace Project Manager: Beverly Faraday
 Pace Profile #: 21198

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MT
 STATE: MT

Page: 2 of 3

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	Requested Client Information	SAMPLE ID (A-Z, 0-9 / .)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB					
1			MW-15	G	8/20 1130		4				013
2			MW-17		8/21 1645		3				014
3			MW-18		↓ 1430		1				015
4			MW-19		8/20 1610		↓				016
5			MW-20		8/22 1130		4				017
6			MW-24		8/22 1100		4				018
7			MW-257		915		4				019
8			McIntosh Sewer		1015		4				020
9			Valley View Wet Well		↓ 1030		3				021
10			DUP 1		8/20 1510		4				022
11			DUP 2		8/21 1440		3				023
12			DUP 3		8/21 1300		4				024

RELINQUISHED BY / AFFILIATION
 DATE: 8/23/18 1500
 TIME: 1500
 SIGNATURE: Mark Pearson

ACCEPTED BY / AFFILIATION
 DATE: 8/23/18 1500
 TIME: 1500
 SIGNATURE: Jennifer Johnson Pace

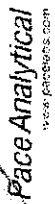
ADDITIONAL COMMENTS
 MW-15, MW-17, MW-18, MW-19, MW-20, MW-24, MW-257, McIntosh Sewer, Valley View Wet Well, DUP 1, DUP 2, DUP 3

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

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: Mark Pearson
 DATE Signed (MM/DD/YYYY): 8/23/18

CHAIN-OF-CUSTODY / Analytical Request Document

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



Page: **3** of **3**

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Tetra Tech	Report To:	Mark Pearson	Attention:	Deb Lloyd
Address:	851 Bridger Drive, Suite 6 Bozeman, MT 59715	Copy To:		Company Name:	(same as Section A)
Email To:	mark.pearson@tetratech.com	Purchase Order No.:		Address:	
Phone:	406-582-8780	Project Name:	Bozeman Landfill	Pace Order Reference:	
Requested Due Date/TAT:	10 day	Project Number:	114-710326-D	Pace Project Manager:	Beverly Faraday
				Pace Profile #:	21198
				Site Location:	MT
				STATE:	
				REGULATORY AGENCY:	
				NPDES	<input checked="" type="checkbox"/>
				GROUND WATER	<input type="checkbox"/>
				RCRA	<input type="checkbox"/>
				UST	<input type="checkbox"/>
				DRINKING WATER	<input type="checkbox"/>
				OTHER	<input type="checkbox"/>

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID S OIL O WIPE W AIR A OTHER OT TISSUE TS	Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB					
1		Trip Blank 1	WT	G	DATE: 2018	TIME: 3/2	1	Unpreserved	Analysis Test		025
2		Trip Blank 2			DATE: 3/2	TIME: 3/2	1				026
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
6020 Metals: As, Ba, Cd, Cr, Cu, Pb, Mo, Ni, Se, Ag, Na, Zn	Mark Pearson / Tetra	8/23/18	1500	Fed Ex - Belgrade	8/23/18	1500	Received on Ice (Y/N) <input checked="" type="checkbox"/> Cooled (Y/N) <input checked="" type="checkbox"/> Samples Intact (Y/N) <input checked="" type="checkbox"/>
				Signature between pace	8/23/18	10:00	0.4 Y Y Y
							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): 8/23/18

*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.

Sample Condition Upon Receipt

Client Name: Tetra Tech Project #: _____

WO# : 10444881
 PM: BEF Due Date: 08/31/18
 CLIENT: 11 Tetra-MT

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7730 5086 7630, 7730 5086 8957

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 G87A9170600254 G87A9155100842 Type of Ice: Wet Blue None Dry Melted

Cooler Temp Read (°C): 0.4, 0.2 Cooler Temp Corrected (°C): 0.4, 0.2 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: True Date and Initials of Person Examining Contents: JJ 8/24/18

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? Matrix: <u>WT</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions: VOA Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1-13, 19-20, 22, 24 1/1</u>
Headspace in VOA Vials (>6mm)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>see exception sheet</u>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): <u>151341</u>	

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ Field Data Required? Yes No
 Comments/Resolution: _____

Project Manager Review:

KSK

Date: 8/27/18

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).



Document Name:
Headspace Exception

Document Revised: 06Nov2017
Page 1 of 1

Document No.:
F-MN-C-276-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Sample ID	Headspace > 6mm	Headspace < 6mm	No Headspace	Total Vials
LF-3	0	1	2	3
MW-5	0	1	2	3
MW-6	0	1	2	3
MW-15	0	1	2	3
MW-19	0	1	2	3
Valley View Vet Well	0	1	2	3
Trip Blank 1	1	0	0	1
Trip Blank 2	0	1	0	1

Workorder: 10444881 Workorder Name: 114-710326 Bozeman Landfill Owner Received Date: 8/24/2018 Due Date: 9/10/2018

Received at:		Send To Lab:		Requested Analysis	
Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (406) 384-0559		Pace Analytical Billings MT 150 N Ninth Street Billings, MT 59101 Phone (406)254-7226			

Report To:
Beverly Faraday

EPA 363.2

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers	LAB USE ONLY
1	LF-2	PS	8/20/2018 16:20	10444881001	Water	1	X
2	LF-3	PS	8/20/2018 15:50	10444881002	Water	1	X
3	MW-4	PS	8/20/2018 12:20	10444881003	Water	1	X
4	MW-5	PS	8/20/2018 11:00	10444881004	Water	1	X
5	MW-6	PS	8/20/2018 15:00	10444881005	Water	1	X
6	MW-7A	PS	8/23/2018 10:20	10444881006	Water	1	X
7	MW-8A	PS	8/23/2018 09:45	10444881007	Water	1	X
8	MW-9A	PS	8/20/2018 13:30	10444881008	Water	1	X
9	MW-10	PS	8/22/2018 10:00	10444881009	Water	1	X
10	MW-11	PS	8/22/2018 12:00	10444881010	Water	1	X
11	MW-12	PS	8/22/2018 12:50	10444881011	Water	1	X
12	MW-13	PS	8/23/2018 11:00	10444881012	Water	1	X
13	MW-15	PS	8/20/2018 11:30	10444881013	Water	1	X
14	MW-27	PS	8/22/2018 09:15	10444881019	Water	1	X
15	Methanion-Sleep	PS	8/22/2018 10:15	10444881020	Water	1	X
16	DUP 1	PS	8/20/2018 15:10	10444881022	Water	1	X
17	DUP 3	PS	8/22/2018 13:00	10444881024	Water	1	X

JXi 8/27/18

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>[Signature]</i>	8/27/18 1630			
2	<i>[Signature]</i>		<i>M. Wachter - Pace</i>	8/28/18 0920	
3					
4					

Cooler Temperature on Receipt 0.8 °C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace-MN Project #: 10444881

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: 7475 9834 5140, 5130

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: G86A9181101159 140279186 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read: 0.8, 1.2

Date and Initials of Person Examining Contents: MW 8/28/18

Cooler Temp Corrected: 0.8, 1.2

Biological Tissue Frozen? Yes No

USDA Regulated Soil Yes No

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA? Check maps & Circle State
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Yes	No	N/A	Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name and Signature on COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Sufficient Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
Filtered Volume Received for Dissolved Tests? Note if sediment is visible in the dissolved container.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11.
Sample Labels Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.
-Includes Date/Time/ID/Analysis Matrix: <u>H2O</u>				
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. <input type="checkbox"/> HNO ₃ ^{17/17} <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl <input type="checkbox"/> NaOH+ZnAce
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample # <u>001-013</u> <u>019, 020, 022, 024</u>
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed: <u>MW</u> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	14.
Trip Blank Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pace Trip Blank Lot # (if purchased): <u>NA</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Last samples crossed off by mistake and were received in MT

Project Manager Review: Benny Fong

Date: 8/29/18

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)

November 01, 2018

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

RE: Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10452593

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on October 22, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10452593001	LF-2	Water	10/16/18 11:40	10/22/18 09:35
10452593002	LF-3	Water	10/16/18 10:50	10/22/18 09:35
10452593003	MW-12	Water	10/16/18 14:00	10/22/18 09:35
10452593004	MW-17	Water	10/16/18 13:00	10/22/18 09:35
10452593005	MW-18	Water	10/16/18 13:30	10/22/18 09:35
10452593006	MW-20	Water	10/16/18 12:20	10/22/18 09:35
10452593007	DUP	Water	10/16/18 09:00	10/22/18 09:35
10452593008	Trip Blank	Water	10/16/18 00:00	10/22/18 09:35

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10452593001	LF-2	EPA 8260B	DS2	61	PASI-M
10452593002	LF-3	EPA 8260B	DS2	61	PASI-M
10452593003	MW-12	EPA 8260B	DS2	61	PASI-M
10452593004	MW-17	EPA 8260B	DS2	61	PASI-M
10452593005	MW-18	EPA 8260B	DS2	61	PASI-M
10452593006	MW-20	EPA 8260B	DS2	61	PASI-M
10452593007	DUP	EPA 8260B	DS2	61	PASI-M
10452593008	Trip Blank	EPA 8260B	DS2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: November 01, 2018

General Information:

8 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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.

Additional Comments:

Analyte Comments:

QC Batch: 572442

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3105813)
 - Cyclohexane
- DUP (Lab ID: 10452593007)
 - Cyclohexane
- LCS (Lab ID: 3105814)
 - Cyclohexane
- LF-2 (Lab ID: 10452593001)
 - Cyclohexane
- LF-3 (Lab ID: 10452593002)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: November 01, 2018

Analyte Comments:

QC Batch: 572442

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- MS (Lab ID: 3105815)
 - Cyclohexane
- MSD (Lab ID: 3105816)
 - Cyclohexane
- MW-12 (Lab ID: 10452593003)
 - Cyclohexane
- MW-17 (Lab ID: 10452593004)
 - Cyclohexane
- MW-18 (Lab ID: 10452593005)
 - Cyclohexane
- MW-20 (Lab ID: 10452593006)
 - Cyclohexane
- Trip Blank (Lab ID: 10452593008)
 - Cyclohexane

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: LF-2 **Lab ID: 10452593001** Collected: 10/16/18 11:40 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 19:22	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 19:22	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		10/30/18 19:22	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 19:22	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 19:22	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 19:22	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 19:22	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 19:22	78-93-3	
Carbon disulfide	0.086J	ug/L	1.0	0.078	1		10/30/18 19:22	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 19:22	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 19:22	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 19:22	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 19:22	67-66-3	
Chloromethane	0.52J	ug/L	4.0	0.16	1		10/30/18 19:22	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 19:22	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 19:22	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 19:22	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 19:22	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 19:22	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 19:22	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 19:22	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 19:22	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 19:22	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 19:22	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 19:22	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 19:22	75-35-4	
cis-1,2-Dichloroethene	0.42J	ug/L	0.50	0.15	1		10/30/18 19:22	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 19:22	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 19:22	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 19:22	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 19:22	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 19:22	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 19:22	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 19:22	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 19:22	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 19:22	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 19:22	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 19:22	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 19:22	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 19:22	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 19:22	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 19:22	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 19:22	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 19:22	79-34-5	
Tetrachloroethene	0.80	ug/L	0.50	0.17	1		10/30/18 19:22	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: LF-2 **Lab ID: 10452593001** Collected: 10/16/18 11:40 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 19:22	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 19:22	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 19:22	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 19:22	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		10/30/18 19:22	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 19:22	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 19:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 19:22	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 19:22	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 19:22	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		10/30/18 19:22	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 19:22	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		10/30/18 19:22	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		10/30/18 19:22	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/30/18 19:22	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: LF-3 Lab ID: 10452593002 Collected: 10/16/18 10:50 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 19:46	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 19:46	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		10/30/18 19:46	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 19:46	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 19:46	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 19:46	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 19:46	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 19:46	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 19:46	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 19:46	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 19:46	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 19:46	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 19:46	67-66-3	
Chloromethane	0.71J	ug/L	4.0	0.16	1		10/30/18 19:46	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 19:46	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 19:46	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 19:46	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 19:46	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 19:46	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 19:46	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 19:46	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 19:46	110-57-6	
Dichlorodifluoromethane	0.38J	ug/L	1.0	0.23	1		10/30/18 19:46	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 19:46	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 19:46	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 19:46	75-35-4	
cis-1,2-Dichloroethene	2.1	ug/L	0.50	0.15	1		10/30/18 19:46	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 19:46	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 19:46	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 19:46	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 19:46	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 19:46	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 19:46	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 19:46	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 19:46	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 19:46	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 19:46	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 19:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 19:46	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 19:46	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 19:46	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 19:46	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 19:46	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 19:46	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 19:46	79-34-5	
Tetrachloroethene	2.9	ug/L	0.50	0.17	1		10/30/18 19:46	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: LF-3 **Lab ID: 10452593002** Collected: 10/16/18 10:50 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 19:46	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 19:46	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 19:46	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 19:46	79-00-5	
Trichloroethene	0.82	ug/L	0.40	0.15	1		10/30/18 19:46	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 19:46	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 19:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 19:46	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 19:46	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 19:46	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		10/30/18 19:46	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 19:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		10/30/18 19:46	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		10/30/18 19:46	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/30/18 19:46	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-12 Lab ID: 10452593003 Collected: 10/16/18 14:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 20:10	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 20:10	107-13-1	
Benzene	0.64	ug/L	0.50	0.10	1		10/30/18 20:10	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 20:10	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:10	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 20:10	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 20:10	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 20:10	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 20:10	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 20:10	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 20:10	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 20:10	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 20:10	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		10/30/18 20:10	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 20:10	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 20:10	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 20:10	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 20:10	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 20:10	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:10	95-50-1	
1,4-Dichlorobenzene	0.44J	ug/L	0.50	0.17	1		10/30/18 20:10	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 20:10	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 20:10	75-71-8	
1,1-Dichloroethane	0.94	ug/L	0.50	0.17	1		10/30/18 20:10	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:10	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 20:10	75-35-4	
cis-1,2-Dichloroethene	5.1	ug/L	0.50	0.15	1		10/30/18 20:10	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 20:10	156-60-5	
1,2-Dichloropropane	0.30J	ug/L	4.0	0.16	1		10/30/18 20:10	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 20:10	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 20:10	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 20:10	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:10	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 20:10	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 20:10	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 20:10	74-88-4	
Isopropylbenzene (Cumene)	0.49J	ug/L	1.0	0.18	1		10/30/18 20:10	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 20:10	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 20:10	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 20:10	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 20:10	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 20:10	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 20:10	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 20:10	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		10/30/18 20:10	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-12 **Lab ID: 10452593003** Collected: 10/16/18 14:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 20:10	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 20:10	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 20:10	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 20:10	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		10/30/18 20:10	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 20:10	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 20:10	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 20:10	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 20:10	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 20:10	108-05-4	
Vinyl chloride	8.7	ug/L	0.20	0.092	1		10/30/18 20:10	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 20:10	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		10/30/18 20:10	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		10/30/18 20:10	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/30/18 20:10	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-17 **Lab ID: 10452593004** Collected: 10/16/18 13:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	10.6J	ug/L	20.0	9.2	1		10/30/18 20:34	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 20:34	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		10/30/18 20:34	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 20:34	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:34	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 20:34	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 20:34	74-83-9	
2-Butanone (MEK)	2.7J	ug/L	5.0	0.99	1		10/30/18 20:34	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 20:34	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 20:34	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 20:34	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 20:34	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 20:34	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		10/30/18 20:34	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 20:34	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 20:34	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 20:34	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 20:34	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 20:34	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:34	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 20:34	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 20:34	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 20:34	75-71-8	
1,1-Dichloroethane	0.59	ug/L	0.50	0.17	1		10/30/18 20:34	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:34	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 20:34	75-35-4	
cis-1,2-Dichloroethene	17.2	ug/L	0.50	0.15	1		10/30/18 20:34	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 20:34	156-60-5	
1,2-Dichloropropane	1.2J	ug/L	4.0	0.16	1		10/30/18 20:34	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 20:34	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 20:34	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 20:34	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:34	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 20:34	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 20:34	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 20:34	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 20:34	98-82-8	
Methylene Chloride	7.7	ug/L	4.0	0.98	1		10/30/18 20:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	0.55J	ug/L	5.0	0.42	1		10/30/18 20:34	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 20:34	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 20:34	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 20:34	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 20:34	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 20:34	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 20:34	79-34-5	
Tetrachloroethene	4.5	ug/L	0.50	0.17	1		10/30/18 20:34	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-17 **Lab ID: 10452593004** Collected: 10/16/18 13:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 20:34	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 20:34	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 20:34	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 20:34	79-00-5	
Trichloroethene	2.6	ug/L	0.40	0.15	1		10/30/18 20:34	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 20:34	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 20:34	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 20:34	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 20:34	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 20:34	108-05-4	
Vinyl chloride	0.13J	ug/L	0.20	0.092	1		10/30/18 20:34	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 20:34	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		10/30/18 20:34	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/30/18 20:34	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		10/30/18 20:34	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-18 Lab ID: 10452593005 Collected: 10/16/18 13:30 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 20:58	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 20:58	107-13-1	
Benzene	0.60	ug/L	0.50	0.10	1		10/30/18 20:58	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 20:58	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:58	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 20:58	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 20:58	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 20:58	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 20:58	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 20:58	56-23-5	
Chlorobenzene	0.31J	ug/L	0.50	0.17	1		10/30/18 20:58	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 20:58	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 20:58	67-66-3	
Chloromethane	0.47J	ug/L	4.0	0.16	1		10/30/18 20:58	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 20:58	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 20:58	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 20:58	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 20:58	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 20:58	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:58	95-50-1	
1,4-Dichlorobenzene	1.2	ug/L	0.50	0.17	1		10/30/18 20:58	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 20:58	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 20:58	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 20:58	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 20:58	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 20:58	75-35-4	
cis-1,2-Dichloroethene	1.5	ug/L	0.50	0.15	1		10/30/18 20:58	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 20:58	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 20:58	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 20:58	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 20:58	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 20:58	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 20:58	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 20:58	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 20:58	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 20:58	74-88-4	
Isopropylbenzene (Cumene)	0.51J	ug/L	1.0	0.18	1		10/30/18 20:58	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 20:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	0.43J	ug/L	5.0	0.42	1		10/30/18 20:58	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 20:58	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 20:58	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 20:58	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 20:58	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 20:58	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 20:58	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		10/30/18 20:58	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-18 **Lab ID: 10452593005** Collected: 10/16/18 13:30 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	10.3	ug/L	10.0	2.2	1		10/30/18 20:58	109-99-9	
Toluene	0.28J	ug/L	0.50	0.083	1		10/30/18 20:58	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 20:58	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 20:58	79-00-5	
Trichloroethene	0.29J	ug/L	0.40	0.15	1		10/30/18 20:58	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 20:58	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 20:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 20:58	76-13-1	
1,2,4-Trimethylbenzene	0.57J	ug/L	1.0	0.20	1		10/30/18 20:58	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 20:58	108-05-4	
Vinyl chloride	2.7	ug/L	0.20	0.092	1		10/30/18 20:58	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 20:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		10/30/18 20:58	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/30/18 20:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		10/30/18 20:58	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-20 **Lab ID: 10452593006** Collected: 10/16/18 12:20 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 21:22	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 21:22	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		10/30/18 21:22	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 21:22	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 21:22	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 21:22	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 21:22	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 21:22	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 21:22	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 21:22	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 21:22	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 21:22	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 21:22	67-66-3	
Chloromethane	0.24J	ug/L	4.0	0.16	1		10/30/18 21:22	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 21:22	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 21:22	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 21:22	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 21:22	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 21:22	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 21:22	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 21:22	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 21:22	110-57-6	
Dichlorodifluoromethane	0.29J	ug/L	1.0	0.23	1		10/30/18 21:22	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 21:22	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 21:22	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 21:22	75-35-4	
cis-1,2-Dichloroethene	0.16J	ug/L	0.50	0.15	1		10/30/18 21:22	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 21:22	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 21:22	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 21:22	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 21:22	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 21:22	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 21:22	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 21:22	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 21:22	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 21:22	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 21:22	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 21:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 21:22	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 21:22	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 21:22	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 21:22	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 21:22	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 21:22	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 21:22	79-34-5	
Tetrachloroethene	7.4	ug/L	0.50	0.17	1		10/30/18 21:22	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: MW-20 **Lab ID: 10452593006** Collected: 10/16/18 12:20 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 21:22	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 21:22	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 21:22	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 21:22	79-00-5	
Trichloroethene	0.41	ug/L	0.40	0.15	1		10/30/18 21:22	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 21:22	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 21:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 21:22	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 21:22	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 21:22	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		10/30/18 21:22	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 21:22	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		10/30/18 21:22	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		10/30/18 21:22	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/30/18 21:22	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: DUP Lab ID: 10452593007 Collected: 10/16/18 09:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 21:46	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 21:46	107-13-1	
Benzene	0.62	ug/L	0.50	0.10	1		10/30/18 21:46	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 21:46	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		10/30/18 21:46	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 21:46	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 21:46	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 21:46	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 21:46	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 21:46	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 21:46	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 21:46	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		10/30/18 21:46	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		10/30/18 21:46	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 21:46	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 21:46	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 21:46	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 21:46	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 21:46	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 21:46	95-50-1	
1,4-Dichlorobenzene	0.43J	ug/L	0.50	0.17	1		10/30/18 21:46	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 21:46	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 21:46	75-71-8	
1,1-Dichloroethane	0.96	ug/L	0.50	0.17	1		10/30/18 21:46	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 21:46	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 21:46	75-35-4	
cis-1,2-Dichloroethene	5.0	ug/L	0.50	0.15	1		10/30/18 21:46	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 21:46	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 21:46	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 21:46	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 21:46	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 21:46	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 21:46	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 21:46	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 21:46	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 21:46	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 21:46	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 21:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 21:46	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 21:46	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		10/30/18 21:46	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 21:46	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 21:46	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 21:46	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 21:46	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		10/30/18 21:46	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: DUP **Lab ID: 10452593007** Collected: 10/16/18 09:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 21:46	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		10/30/18 21:46	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 21:46	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 21:46	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		10/30/18 21:46	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 21:46	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 21:46	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 21:46	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 21:46	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 21:46	108-05-4	
Vinyl chloride	8.8	ug/L	0.20	0.092	1		10/30/18 21:46	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 21:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		10/30/18 21:46	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		10/30/18 21:46	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		10/30/18 21:46	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: Trip Blank **Lab ID: 10452593008** Collected: 10/16/18 00:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		10/30/18 18:58	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		10/30/18 18:58	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		10/30/18 18:58	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		10/30/18 18:58	74-97-5	
Bromodichloromethane	0.31J	ug/L	0.50	0.22	1		10/30/18 18:58	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		10/30/18 18:58	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		10/30/18 18:58	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		10/30/18 18:58	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		10/30/18 18:58	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		10/30/18 18:58	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 18:58	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		10/30/18 18:58	75-00-3	
Chloroform	1.0	ug/L	1.0	0.45	1		10/30/18 18:58	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		10/30/18 18:58	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		10/30/18 18:58	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		10/30/18 18:58	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		10/30/18 18:58	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		10/30/18 18:58	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		10/30/18 18:58	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 18:58	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/30/18 18:58	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		10/30/18 18:58	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		10/30/18 18:58	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 18:58	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		10/30/18 18:58	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		10/30/18 18:58	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/30/18 18:58	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/30/18 18:58	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		10/30/18 18:58	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		10/30/18 18:58	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		10/30/18 18:58	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		10/30/18 18:58	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		10/30/18 18:58	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		10/30/18 18:58	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		10/30/18 18:58	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		10/30/18 18:58	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		10/30/18 18:58	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		10/30/18 18:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		10/30/18 18:58	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		10/30/18 18:58	1634-04-4	
2-Propanol	64.3J	ug/L	100	11.4	1		10/30/18 18:58	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		10/30/18 18:58	103-65-1	
Styrene	<0.19	ug/L	1.0	0.19	1		10/30/18 18:58	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		10/30/18 18:58	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		10/30/18 18:58	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		10/30/18 18:58	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Sample: Trip Blank **Lab ID: 10452593008** Collected: 10/16/18 00:00 Received: 10/22/18 09:35 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		10/30/18 18:58	109-99-9	
Toluene	0.12J	ug/L	0.50	0.083	1		10/30/18 18:58	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		10/30/18 18:58	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		10/30/18 18:58	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		10/30/18 18:58	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		10/30/18 18:58	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		10/30/18 18:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		10/30/18 18:58	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		10/30/18 18:58	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		10/30/18 18:58	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		10/30/18 18:58	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		10/30/18 18:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		10/30/18 18:58	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/30/18 18:58	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		10/30/18 18:58	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

QC Batch: 572442 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10452593001, 10452593002, 10452593003, 10452593004, 10452593005, 10452593006, 10452593007, 10452593008

METHOD BLANK: 3105813 Matrix: Water
Associated Lab Samples: 10452593001, 10452593002, 10452593003, 10452593004, 10452593005, 10452593006, 10452593007, 10452593008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	10/30/18 18:34	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	10/30/18 18:34	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	10/30/18 18:34	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	10/30/18 18:34	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	10/30/18 18:34	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	10/30/18 18:34	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	10/30/18 18:34	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	10/30/18 18:34	
1,2,4-Trimethylbenzene	ug/L	<0.20	1.0	0.20	10/30/18 18:34	MN
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	10/30/18 18:34	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	10/30/18 18:34	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	10/30/18 18:34	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	10/30/18 18:34	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	10/30/18 18:34	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	10/30/18 18:34	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	10/30/18 18:34	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	10/30/18 18:34	
2-Hexanone	ug/L	<0.88	5.0	0.88	10/30/18 18:34	
2-Propanol	ug/L	<11.4	100	11.4	10/30/18 18:34	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	10/30/18 18:34	
Acetone	ug/L	<9.2	20.0	9.2	10/30/18 18:34	
Acrylonitrile	ug/L	<0.91	10.0	0.91	10/30/18 18:34	
Benzene	ug/L	<0.10	0.50	0.10	10/30/18 18:34	
Bromochloromethane	ug/L	<0.27	1.0	0.27	10/30/18 18:34	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	10/30/18 18:34	
Bromoform	ug/L	<0.80	4.0	0.80	10/30/18 18:34	
Bromomethane	ug/L	<1.8	4.0	1.8	10/30/18 18:34	
Carbon disulfide	ug/L	<0.078	1.0	0.078	10/30/18 18:34	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	10/30/18 18:34	
Chlorobenzene	ug/L	<0.17	0.50	0.17	10/30/18 18:34	
Chloroethane	ug/L	<0.49	1.0	0.49	10/30/18 18:34	
Chloroform	ug/L	<0.45	1.0	0.45	10/30/18 18:34	
Chloromethane	ug/L	<0.16	4.0	0.16	10/30/18 18:34	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	10/30/18 18:34	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	10/30/18 18:34	
Cyclohexane	ug/L	<0.54	5.0	0.54	10/30/18 18:34	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	10/30/18 18:34	
Dibromomethane	ug/L	<0.16	1.0	0.16	10/30/18 18:34	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	10/30/18 18:34	
Ethylbenzene	ug/L	<0.14	0.50	0.14	10/30/18 18:34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

METHOD BLANK: 3105813

Matrix: Water

Associated Lab Samples: 10452593001, 10452593002, 10452593003, 10452593004, 10452593005, 10452593006, 10452593007, 10452593008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iodomethane	ug/L	<0.82	4.0	0.82	10/30/18 18:34	
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	10/30/18 18:34	MN
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	10/30/18 18:34	
Methylene Chloride	ug/L	<0.98	4.0	0.98	10/30/18 18:34	
n-Hexane	ug/L	<0.93	10.0	0.93	10/30/18 18:34	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	10/30/18 18:34	
Styrene	ug/L	<0.19	1.0	0.19	10/30/18 18:34	MN
Tetrachloroethane	ug/L	<0.17	0.50	0.17	10/30/18 18:34	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	10/30/18 18:34	
Toluene	ug/L	<0.083	0.50	0.083	10/30/18 18:34	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	10/30/18 18:34	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	10/30/18 18:34	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	10/30/18 18:34	
Trichloroethene	ug/L	<0.15	0.40	0.15	10/30/18 18:34	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	10/30/18 18:34	
Vinyl acetate	ug/L	<1.1	10.0	1.1	10/30/18 18:34	
Vinyl chloride	ug/L	<0.092	0.20	0.092	10/30/18 18:34	
Xylene (Total)	ug/L	<0.31	1.5	0.31	10/30/18 18:34	
1,2-Dichloroethane-d4 (S)	%	97	75-125		10/30/18 18:34	
4-Bromofluorobenzene (S)	%	103	75-125		10/30/18 18:34	
Toluene-d8 (S)	%	99	75-125		10/30/18 18:34	

LABORATORY CONTROL SAMPLE: 3105814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	10	9.2	92	75-125	
1,1,1-Trichloroethane	ug/L	10	9.4	94	75-125	
1,1,2,2-Tetrachloroethane	ug/L	10	9.1	91	75-125	
1,1,2-Trichloroethane	ug/L	10	8.9	89	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	10	8.7	87	72-125	
1,1-Dichloroethane	ug/L	10	9.1	91	75-125	
1,1-Dichloroethene	ug/L	10	8.9	89	73-125	
1,2,3-Trichloropropane	ug/L	10	9.2	92	75-125	
1,2,4-Trimethylbenzene	ug/L	10	8.8	88	75-125	
1,2-Dibromo-3-chloropropane	ug/L	25	22.6	90	64-133	
1,2-Dibromoethane (EDB)	ug/L	10	8.8	88	75-125	
1,2-Dichlorobenzene	ug/L	10	9.0	90	75-125	
1,2-Dichloroethane	ug/L	10	9.6	96	75-125	
1,2-Dichloropropane	ug/L	10	8.8	88	75-125	
1,4-Dichlorobenzene	ug/L	10	8.8	88	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	200	170J	85	75-125	
2-Butanone (MEK)	ug/L	50	43.2	86	65-126	
2-Hexanone	ug/L	50	44.7	89	75-134	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

LABORATORY CONTROL SAMPLE: 3105814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/L	100	91.0J	91	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	50	46.8	94	75-131	
Acetone	ug/L	50	43.9	88	68-150	
Acrylonitrile	ug/L	101	90.0	89	75-125	
Benzene	ug/L	10	8.7	87	75-125	
Bromochloromethane	ug/L	10	9.2	92	75-125	
Bromodichloromethane	ug/L	10	9.4	94	75-125	
Bromoform	ug/L	10	10	100	70-125	
Bromomethane	ug/L	10	11.8	118	30-145	
Carbon disulfide	ug/L	10	7.1	71	67-125	
Carbon tetrachloride	ug/L	10	10	100	75-125	
Chlorobenzene	ug/L	10	9.2	92	75-125	
Chloroethane	ug/L	10	8.5	85	73-131	
Chloroform	ug/L	10	8.9	89	75-125	
Chloromethane	ug/L	10	8.6	86	52-132	
cis-1,2-Dichloroethene	ug/L	10	8.7	87	75-125	
cis-1,3-Dichloropropene	ug/L	10	8.3	83	75-125	
Cyclohexane	ug/L	50	42.2	84	66-125 N2	
Dibromochloromethane	ug/L	10	9.2	92	75-125	
Dibromomethane	ug/L	10	9.1	91	75-125	
Dichlorodifluoromethane	ug/L	10	9.2	92	64-127	
Ethylbenzene	ug/L	10	8.9	89	75-125	
Iodomethane	ug/L	10	7.7	77	72-127	
Isopropylbenzene (Cumene)	ug/L	10	8.7	87	75-125	
Methyl-tert-butyl ether	ug/L	10	9.0	90	75-125	
Methylene Chloride	ug/L	10	8.9	89	72-125	
n-Hexane	ug/L	25	18.4	74	49-138	
n-Propylbenzene	ug/L	10	9.3	93	75-125	
Styrene	ug/L	10	8.6	86	75-125	
Tetrachloroethene	ug/L	10	9.0	90	75-125	
Tetrahydrofuran	ug/L	100	87.4	87	64-150	
Toluene	ug/L	10	8.6	86	75-125	
trans-1,2-Dichloroethene	ug/L	10	8.7	87	75-125	
trans-1,3-Dichloropropene	ug/L	10	9.8	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	25.2	22.3	89	57-126	
Trichloroethene	ug/L	10	8.8	88	75-125	
Trichlorofluoromethane	ug/L	10	9.6	96	74-126	
Vinyl acetate	ug/L	10	8.9J	89	72-129	
Vinyl chloride	ug/L	10	9.1	91	71-130	
Xylene (Total)	ug/L	30	28.8	96	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			100	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Parameter	Units	3105815		3105816		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10453496001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,1,2-Tetrachloroethane	ug/L	<0.20	10	10	8.2	9.0	82	90	75-125	8	30		
1,1,1-Trichloroethane	ug/L	<0.14	10	10	9.4	9.6	94	96	75-129	1	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.17	10	10	8.2	8.6	82	86	75-125	5	30		
1,1,2-Trichloroethane	ug/L	<0.18	10	10	8.0	8.7	80	87	75-125	8	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	10	10	9.5	9.5	95	95	75-136	0	30		
1,1-Dichloroethane	ug/L	0.55	10	10	9.4	9.7	89	91	75-125	2	30		
1,1-Dichloroethene	ug/L	0.28J	10	10	9.6	10.0	93	97	75-127	4	30		
1,2,3-Trichloropropane	ug/L	<0.26	10	10	7.9	8.7	79	87	75-125	10	30		
1,2,4-Trimethylbenzene	ug/L	<0.20	10	10	8.3	8.8	83	88	71-125	6	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.7	25	25	20.3	21.3	81	85	61-127	5	30		
1,2-Dibromoethane (EDB)	ug/L	<0.24	10	10	8.2	8.5	82	85	75-125	3	30		
1,2-Dichlorobenzene	ug/L	<0.14	10	10	8.0	8.5	80	85	75-125	6	30		
1,2-Dichloroethane	ug/L	0.35J	10	10	8.9	9.3	85	89	69-125	5	30		
1,2-Dichloropropane	ug/L	<0.16	10	10	8.3	8.8	83	88	75-125	5	30		
1,4-Dichlorobenzene	ug/L	<0.17	10	10	8.4	9.0	84	90	74-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	200	154J	151J	77	75	67-128		30		
2-Butanone (MEK)	ug/L	<0.99	50	50	35.9	40.7	72	81	59-125	13	30		
2-Hexanone	ug/L	<0.88	50	50	36.7	39.3	73	79	68-138	7	30		
2-Propanol	ug/L	24.2J	100	100	94.1J	102	70	78	44-150		30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	50	50	39.4	43.9	79	88	73-125	11	30		
Acetone	ug/L	<9.2	50	50	43.2	44.2	86	88	75-150	2	30		
Acrylonitrile	ug/L	<0.91	101	101	80.7	82.9	80	82	69-127	3	30		
Benzene	ug/L	1.4	10	10	10.2	10.5	88	91	74-125	3	30		
Bromochloromethane	ug/L	<0.27	10	10	8.5	8.5	85	85	75-125	0	30		
Bromodichloromethane	ug/L	<0.22	10	10	8.3	8.9	83	89	75-125	7	30		
Bromoform	ug/L	<0.80	10	10	8.3	9.7	83	97	68-125	16	30		
Bromomethane	ug/L	<1.8	10	10	11.8	14.3	118	143	37-149	19	30		
Carbon disulfide	ug/L	<0.078	10	10	8.9	9.2	89	92	66-139	4	30		
Carbon tetrachloride	ug/L	<0.19	10	10	10	10.4	100	104	75-127	4	30		
Chlorobenzene	ug/L	<0.17	10	10	8.7	9.2	87	92	75-125	5	30		
Chloroethane	ug/L	<0.49	10	10	9.5	10.1	95	101	73-134	6	30		
Chloroform	ug/L	<0.45	10	10	8.4	8.9	84	89	71-125	5	30		
Chloromethane	ug/L	<0.16	10	10	8.6	10.8	86	108	58-133	23	30		
cis-1,2-Dichloroethene	ug/L	3.3	10	10	12.1	12.1	89	88	75-125	1	30		
cis-1,3-Dichloropropene	ug/L	<0.20	10	10	7.8	8.5	78	85	71-125	9	30		
Cyclohexane	ug/L	<0.54	50	50	46.7	48.7	93	97	73-148	4	30	N2	
Dibromochloromethane	ug/L	<0.12	10	10	7.9	8.7	79	87	75-125	11	30		
Dibromomethane	ug/L	<0.16	10	10	8.3	8.5	83	85	75-125	2	30		
Dichlorodifluoromethane	ug/L	<0.23	10	10	8.4	10.7	84	107	70-150	24	30		
Ethylbenzene	ug/L	0.25J	10	10	9.2	9.6	89	94	75-125	5	30		
Iodomethane	ug/L	<0.82	10	10	8.1	8.6	81	86	73-138	5	30		
Isopropylbenzene (Cumene)	ug/L	<0.18	10	10	8.5	8.9	85	89	75-125	5	30		
Methyl-tert-butyl ether	ug/L	<0.16	10	10	7.9	8.5	79	85	75-125	8	30		
Methylene Chloride	ug/L	<0.98	10	10	8.5	8.5	85	85	72-125	1	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Parameter	Units	3105815		3105816		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
n-Hexane	ug/L	<0.93	25	25	24.4	26.6	98	106	37-150	9	30	
n-Propylbenzene	ug/L	<0.10	10	10	9.1	9.9	91	99	75-126	8	30	
Styrene	ug/L	<0.19	10	10	8.3	8.7	83	87	71-125	4	30	
Tetrachloroethene	ug/L	<0.17	10	10	9.4	9.8	94	98	75-125	4	30	
Tetrahydrofuran	ug/L	<2.2	100	100	81.1	86.0	81	86	75-150	6	30	
Toluene	ug/L	<0.083	10	10	8.5	9.0	85	90	74-125	5	30	
trans-1,2-Dichloroethene	ug/L	0.21J	10	10	9.6	9.7	94	95	75-125	0	30	
trans-1,3-Dichloropropene	ug/L	<0.18	10	10	8.6	9.6	86	96	70-125	11	30	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	25.2	25.2	17.8	22.6	71	90	57-125	24	30	
Trichloroethene	ug/L	<0.15	10	10	8.9	9.6	89	96	75-125	7	30	
Trichlorofluoromethane	ug/L	<0.23	10	10	8.9	11.3	89	113	75-135	24	30	
Vinyl acetate	ug/L	<1.1	10	10	8.3J	9.0J	83	90	57-136		30	
Vinyl chloride	ug/L	0.32	10	10	9.7	11.4	94	111	74-141	16	30	
Xylene (Total)	ug/L	<0.31	30	30	27.4	29.5	91	98	75-125	7	30	
1,2-Dichloroethane-d4 (S)	%						102	100	75-125			
4-Bromofluorobenzene (S)	%						100	100	75-125			
Toluene-d8 (S)	%						102	100	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10452593

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10452593001	LF-2	EPA 8260B	572442		
10452593002	LF-3	EPA 8260B	572442		
10452593003	MW-12	EPA 8260B	572442		
10452593004	MW-17	EPA 8260B	572442		
10452593005	MW-18	EPA 8260B	572442		
10452593006	MW-20	EPA 8260B	572442		
10452593007	DUP	EPA 8260B	572442		
10452593008	Trip Blank	EPA 8260B	572442		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

WO#: 10452593



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section C
 Invoicing Information:
 Attention: Deb Lloyd
 Company Name: (same as Section A)
 Address:
 Pace Quote Reference:
 Pace Project Manager: Beverly Faraday
 Pace Profile #: 21198

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: MT
 STATE: MT

Required Project Information:
 Report To: Mark Pearson
 Copy To:
 Purchase Order No.:
 Project Name: Bozeman Landfill
 Project Number: 114-570326V.200

Required Client Information:
 Company: Tetra Tech
 Address: 851 Bridger Drive, Suite 6
 Bozeman, MT 59715
 Email To: mark.pearson@tetratech.com
 Phone: 406-582-8780 Fax: 406-582-8790
 Requested Due Date/TAT: 10 day

Page: / of /

ITEM #	Valid Matrix Codes MTRX CODE DW PW WW P SL OL WP AR OT TS	SAMPLE ID (A-Z, 0-9 / -)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ O ₂ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Requested Analysis Filtered (Y/N)	Pace Project No. / Lab I.D.
				COMPOSITE START	COMPOSITE END/GRAB					
1		LF-2	G	10/16	1400		3			001
2		LF-3	G	10/16	1050					002
3		MW-12	G	1400						003
4		MW-17	G	1300						004
5		MW-18	G	1330						005
6		MW-20	G	1220						006
7		DUP	G	900						007
8		Trip Blank	G	10/11						008
9										
10										
11										
12										

ADDITIONAL COMMENTS: Mark Pearson / TE 10/18/18 1400 Fed Ex - Belgrade 10/18/18 1400
 1 cooler
 1 cooler 935 40

RELINQUISHED BY / AFFILIATION: Mark Pearson / Tetra Tech
 DATE: 10/18/18
 TIME: 1400

ACCEPTED BY / AFFILIATION: Mark Pearson
 DATE: 10/18/18
 TIME: 1400

Temp in °C: 4
 Received on: 4
 Cooler Sealed (Y/N): 4
 Custody Sealed (Y/N): 4
 Samples Intact (Y/N): 4

SAMPLER NAME AND SIGNATURE: Mark Pearson
 PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: Mark Pearson
 DATE Signed (MM/DD/YYYY): 10/18/18

Sample Condition Upon Receipt

Client Name: Tetatech

Project #: _____

WO#: 10452593

PM: BEF

Due Date: 10/29/18

CLIENT: 11 Tetra-MT

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____

Tracking Number: 7735 0969 4360

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: G87A9170600254 G87A9155100842 Type of Ice: Wet Blue None Dry Melted

Cooler Temp Read (°C): 3.8 Cooler Temp Corrected (°C): 4.0 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: +0.2 Date and Initials of Person Examining Contents: BEF 10/22/18

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix: <u>MT</u>	12.
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Exceptions: <u>VOA</u> , Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N Sample # _____ Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>See explanation sheet</u>
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Pace Trip Blank Lot # (if purchased): <u>180214</u>	15.

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Brenda Fary

Date: 10/22/18

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).

UB:10

December 19, 2018

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

RE: Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on December 04, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon NwTPH Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DW Certification #: 9952 C

West Virginia DEP Certification #: 382

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10457409001	LF-2	Water	11/27/18 11:20	12/04/18 10:10
10457409002	LF-3	Water	11/27/18 11:50	12/04/18 10:10
10457409003	MW-4	Water	11/29/18 09:30	12/04/18 10:10
10457409004	MW-5	Water	11/28/18 10:00	12/04/18 10:10
10457409005	MW-6	Water	11/29/18 12:00	12/04/18 10:10
10457409006	MW-7A	Water	11/28/18 15:00	12/04/18 10:10
10457409007	MW-8A	Water	11/28/18 11:30	12/04/18 10:10
10457409008	MW-9A	Water	11/29/18 10:30	12/04/18 10:10
10457409009	MW-10	Water	11/27/18 10:40	12/04/18 10:10
10457409010	MW-11	Water	11/28/18 14:30	12/04/18 10:10
10457409011	MW-12	Water	11/28/18 13:50	12/04/18 10:10
10457409012	MW-13	Water	11/29/18 11:10	12/04/18 10:10
10457409013	MW-15	Water	11/28/18 10:30	12/04/18 10:10
10457409014	MW-17	Water	11/28/18 13:00	12/04/18 10:10
10457409015	MW-18	Water	11/28/18 12:15	12/04/18 10:10
10457409016	MW-19	Water	11/27/18 14:40	12/04/18 10:10
10457409017	MW-20	Water	11/27/18 15:50	12/04/18 10:10
10457409018	MW-21	Water	11/27/18 12:20	12/04/18 10:10
10457409019	MW-22	Water	11/27/18 12:40	12/04/18 10:10
10457409020	MW-23	Water	11/27/18 13:00	12/04/18 10:10
10457409021	MW-24	Water	11/27/18 15:20	12/04/18 10:10
10457409022	MW-27	Water	11/27/18 14:00	12/04/18 10:10
10457409023	Mclhattan Seep	Water	11/27/18 11:00	12/04/18 10:10
10457409024	Valley View Vet Well	Water	11/27/18 10:20	12/04/18 10:10
10457409025	DUP 1	Water	11/27/18 16:00	12/04/18 10:10
10457409026	DUP 2	Water	11/28/18 14:00	12/04/18 10:10
10457409027	DUP 3	Water	11/29/18 11:30	12/04/18 10:10
10457409028	Trip Blank 1	Water	11/27/18 00:00	12/04/18 10:10
10457409029	Trip Blank 2	Water	11/27/18 00:00	12/04/18 10:10

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10457409001	LF-2	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409002	LF-3	EPA 6020	RJS	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	RJS	15	PASI-M
10457409003	MW-4	EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	RJS	15	PASI-M
10457409004	MW-5	EPA 6020	PW1	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409005	MW-6	EPA 6020	PW1	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409006	MW-7A	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409007	MW-8A	EPA 6020	RJS	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409008	MW-9A	EPA 6020	RJS	15	PASI-M
		EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409009	MW-10	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409010	MW-11	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409011	MW-12	EPA 6020	PW1	15	PASI-M
		EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	PW1	15	PASI-M
10457409012	MW-13	EPA 6020	PW1	15	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10457409013	MW-15	EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	PW1	15	PASI-M
		EPA 8260B	DS2	61	PASI-M
10457409014	MW-17	EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	RJS	15	PASI-M
10457409015	MW-18	EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 6020	PW1	15	PASI-M
10457409016	MW-19	EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
10457409017	MW-20	EPA 8260B	AEZ	61	PASI-M
		EPA 6020	RJS	15	PASI-M
10457409018	MW-21	EPA 8260B	AEZ	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
10457409019	MW-22	EPA 8260B	AEZ	61	PASI-M
10457409020	MW-23	EPA 8260B	AEZ	61	PASI-M
10457409021	MW-24	EPA 8260B	AEZ	61	PASI-M
10457409022	MW-27	EPA 6020	RJS	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
10457409023	Mclhattan Seep	EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
		EPA 6020	RJS	15	PASI-M
10457409024	Valley View Vet Well	EPA 8260B	AEZ	61	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409025	DUP 1	EPA 6020	PW1	15	PASI-M
		EPA 8260B	AEZ	61	PASI-M
10457409026	DUP 2	EPA 300.0	KEO	2	PASI-M
		EPA 6020	PW1	15	PASI-M
		EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10457409027	DUP 3	EPA 6020	PW1	15	PASI-M
		EPA 8260B	DS2	61	PASI-M
		EPA 300.0	KEO	2	PASI-M
		EPA 353.2	JFP	1	PASI-M
10457409028	Trip Blank 1	EPA 8260B	DS2	61	PASI-M
10457409029	Trip Blank 2	EPA 8260B	DS2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 6020

Description: 6020 MET ICPMS, Dissolved

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

General Information:

18 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

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

Sample Preparation:

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

Initial Calibrations (including MS Tune as applicable):

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

Continuing Calibration:

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

Internal Standards:

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

Method Blank:

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

QC Batch: 579208

B: Analyte was detected in the associated method blank.

- BLANK for HBN 579208 [MPRP/887 (Lab ID: 3141886)]
 - Barium, Dissolved
 - Chromium, Dissolved

P8: Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

- BLANK (Lab ID: 3141886)
 - Manganese, Dissolved

QC Batch: 580844

B: Analyte was detected in the associated method blank.

- BLANK for HBN 580844 [MPRP/889 (Lab ID: 3149833)]
 - Thallium, Dissolved

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

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

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 6020

Description: 6020 MET ICPMS, Dissolved

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

Analyte Comments:

QC Batch: 579208

P8: Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

- BLANK (Lab ID: 3141886)
- Manganese, Dissolved

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

General Information:

29 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 579447

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

- BLANK (Lab ID: 3142929)
 - Bromomethane
- DUP 1 (Lab ID: 10457409025)
 - Bromomethane
- LCS (Lab ID: 3142930)
 - Bromomethane
- LF-2 (Lab ID: 10457409001)
 - Bromomethane
- LF-3 (Lab ID: 10457409002)
 - Bromomethane
- MS (Lab ID: 3145878)
 - Bromomethane
- MSD (Lab ID: 3145879)
 - Bromomethane
- MW-10 (Lab ID: 10457409009)
 - Bromomethane
- MW-11 (Lab ID: 10457409010)
 - Bromomethane
- MW-19 (Lab ID: 10457409016)
 - Bromomethane
- MW-20 (Lab ID: 10457409017)
 - Bromomethane
- MW-21 (Lab ID: 10457409018)
 - Bromomethane
- MW-22 (Lab ID: 10457409019)
 - Bromomethane
- MW-23 (Lab ID: 10457409020)
 - Bromomethane
- MW-24 (Lab ID: 10457409021)
 - Bromomethane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

QC Batch: 579447

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

- MW-27 (Lab ID: 10457409022)
 - Bromomethane
- MW-4 (Lab ID: 10457409003)
 - Bromomethane
- MW-5 (Lab ID: 10457409004)
 - Bromomethane
- MW-6 (Lab ID: 10457409005)
 - Bromomethane
- MW-7A (Lab ID: 10457409006)
 - Bromomethane
- MW-8A (Lab ID: 10457409007)
 - Bromomethane
- McIlhattan Seep (Lab ID: 10457409023)
 - Bromomethane
- Valley View Vet Well (Lab ID: 10457409024)
 - Bromomethane

Internal Standards:

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

Surrogates:

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

Method Blank:

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

QC Batch: 579536

B: Analyte was detected in the associated method blank.

- BLANK for HBN 579536 [MSV/4673 (Lab ID: 3143375)]
 - 2-Propanol

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: 579984

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10457175011

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

- MS (Lab ID: 3145851)
 - Ethylbenzene
- MSD (Lab ID: 3145852)

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

QC Batch: 579984

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10457175011

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

- Ethylbenzene

Additional Comments:

Analyte Comments:

QC Batch: 579447

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3142929)
 - Cyclohexane
- DUP 1 (Lab ID: 10457409025)
 - Cyclohexane
- LCS (Lab ID: 3142930)
 - Cyclohexane
- LF-2 (Lab ID: 10457409001)
 - Cyclohexane
- LF-3 (Lab ID: 10457409002)
 - Cyclohexane
- MS (Lab ID: 3145878)
 - Cyclohexane
- MSD (Lab ID: 3145879)
 - Cyclohexane
- MW-10 (Lab ID: 10457409009)
 - Cyclohexane
- MW-11 (Lab ID: 10457409010)
 - Cyclohexane
- MW-19 (Lab ID: 10457409016)
 - Cyclohexane
- MW-20 (Lab ID: 10457409017)
 - Cyclohexane
- MW-21 (Lab ID: 10457409018)
 - Cyclohexane
- MW-22 (Lab ID: 10457409019)
 - Cyclohexane
- MW-23 (Lab ID: 10457409020)
 - Cyclohexane
- MW-24 (Lab ID: 10457409021)
 - Cyclohexane
- MW-27 (Lab ID: 10457409022)
 - Cyclohexane
- MW-4 (Lab ID: 10457409003)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

Analyte Comments:

QC Batch: 579447

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- MW-5 (Lab ID: 10457409004)
 - Cyclohexane
- MW-6 (Lab ID: 10457409005)
 - Cyclohexane
- MW-7A (Lab ID: 10457409006)
 - Cyclohexane
- MW-8A (Lab ID: 10457409007)
 - Cyclohexane
- McIlhattan Seep (Lab ID: 10457409023)
 - Cyclohexane
- Valley View Vet Well (Lab ID: 10457409024)
 - Cyclohexane

QC Batch: 579536

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3143375)
 - Cyclohexane
- LCS (Lab ID: 3143376)
 - Cyclohexane
- MS (Lab ID: 3143377)
 - Cyclohexane
- MSD (Lab ID: 3143378)
 - Cyclohexane
- Trip Blank 1 (Lab ID: 10457409028)
 - Cyclohexane
- Trip Blank 2 (Lab ID: 10457409029)
 - Cyclohexane

QC Batch: 579683

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3144135)
 - Cyclohexane
- DUP 2 (Lab ID: 10457409026)
 - Cyclohexane
- LCS (Lab ID: 3144136)
 - Cyclohexane
- MS (Lab ID: 3144137)
 - Cyclohexane
- MSD (Lab ID: 3144138)
 - Cyclohexane
- MW-12 (Lab ID: 10457409011)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

Analyte Comments:

QC Batch: 579683

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- MW-15 (Lab ID: 10457409013)
 - Cyclohexane
- MW-17 (Lab ID: 10457409014)
 - Cyclohexane
- MW-18 (Lab ID: 10457409015)
 - Cyclohexane

QC Batch: 579984

N2: The lab does not hold NELAC/TNI accreditation for this parameter.

- BLANK (Lab ID: 3145849)
 - Cyclohexane
- DUP 3 (Lab ID: 10457409027)
 - Cyclohexane
- LCS (Lab ID: 3145850)
 - Cyclohexane
- MS (Lab ID: 3145851)
 - Cyclohexane
- MSD (Lab ID: 3145852)
 - Cyclohexane
- MW-13 (Lab ID: 10457409012)
 - Cyclohexane
- MW-9A (Lab ID: 10457409008)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 300.0

Description: 300.0 IC Anions

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

General Information:

16 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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.

QC Batch: 578874

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10457409002,10457409003

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

- MS (Lab ID: 3139697)
 - Chloride
 - Sulfate
- MS (Lab ID: 3139699)
 - Chloride
 - Sulfate
- MSD (Lab ID: 3139698)
 - Chloride
 - Sulfate
- MSD (Lab ID: 3139700)
 - Chloride
 - Sulfate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Method: EPA 353.2

Description: 353.2 Nitrate + Nitrite

Client: Tetra Tech, Inc. - MT

Date: December 19, 2018

General Information:

17 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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.

QC Batch: 580704

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10457409009,10457409010

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

- MS (Lab ID: 3148994)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 3148995)
 - Nitrogen, NO2 plus NO3

Additional Comments:

Analyte Comments:

QC Batch: 580704

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

- MS (Lab ID: 3148996)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 3148997)
 - Nitrogen, NO2 plus NO3

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: LF-2 **Lab ID: 10457409001** Collected: 11/27/18 11:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 21:28	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 21:28	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 21:28	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 21:28	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 21:28	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 21:28	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 21:28	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 21:28	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 21:28	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 21:28	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 21:28	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 21:28	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 21:28	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 21:28	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 21:28	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 21:28	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 21:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 21:28	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 21:28	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 21:28	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 21:28	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 21:28	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/06/18 21:28	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 21:28	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 21:28	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 21:28	75-35-4	
cis-1,2-Dichloroethene	0.42J	ug/L	0.50	0.15	1		12/06/18 21:28	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 21:28	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 21:28	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/06/18 21:28	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 21:28	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 21:28	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 21:28	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 21:28	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 21:28	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 21:28	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 21:28	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 21:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 21:28	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 21:28	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 21:28	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 21:28	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 21:28	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 21:28	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 21:28	79-34-5	
Tetrachloroethene	0.73	ug/L	0.50	0.17	1		12/06/18 21:28	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: LF-2 **Lab ID: 10457409001** Collected: 11/27/18 11:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 21:28	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/06/18 21:28	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 21:28	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 21:28	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/06/18 21:28	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 21:28	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 21:28	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 21:28	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 21:28	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 21:28	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 21:28	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 21:28	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/06/18 21:28	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/06/18 21:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/06/18 21:28	460-00-4	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.1	mg/L	0.50	0.088	5		12/13/18 15:13		FS

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: LF-3 **Lab ID: 10457409002** Collected: 11/27/18 11:50 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.46J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:07	7440-38-2	
Barium, Dissolved	46.1	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:07	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:07	7440-43-9	
Chromium, Dissolved	4.6	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:07	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:07	7440-48-4	
Copper, Dissolved	0.48J	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:07	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:07	7439-89-6	
Lead, Dissolved	0.075J	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:07	7439-92-1	B
Manganese, Dissolved	0.28J	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:07	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:07	7440-02-0	
Selenium, Dissolved	1.0	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:07	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:07	7440-22-4	
Thallium, Dissolved	0.079J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:07	7440-28-0	B
Vanadium, Dissolved	2.5	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:07	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:07	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 21:52	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 21:52	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 21:52	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 21:52	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 21:52	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 21:52	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 21:52	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 21:52	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 21:52	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 21:52	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 21:52	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 21:52	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 21:52	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 21:52	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 21:52	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 21:52	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 21:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 21:52	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 21:52	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 21:52	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 21:52	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 21:52	110-57-6	
Dichlorodifluoromethane	0.34J	ug/L	1.0	0.23	1		12/06/18 21:52	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 21:52	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 21:52	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 21:52	75-35-4	
cis-1,2-Dichloroethene	1.7	ug/L	0.50	0.15	1		12/06/18 21:52	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 21:52	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 21:52	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: LF-3 **Lab ID: 10457409002** Collected: 11/27/18 11:50 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/06/18 21:52	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 21:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 21:52	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 21:52	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 21:52	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 21:52	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 21:52	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 21:52	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 21:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 21:52	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 21:52	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 21:52	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 21:52	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 21:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 21:52	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 21:52	79-34-5	
Tetrachloroethene	3.0	ug/L	0.50	0.17	1		12/06/18 21:52	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 21:52	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/06/18 21:52	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 21:52	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 21:52	79-00-5	
Trichloroethene	0.70	ug/L	0.40	0.15	1		12/06/18 21:52	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 21:52	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 21:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 21:52	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 21:52	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 21:52	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 21:52	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 21:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/06/18 21:52	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/06/18 21:52	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/06/18 21:52	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	31.8	mg/L	1.2	0.28	1		12/05/18 04:51	16887-00-6	M1
Sulfate	21.3	mg/L	1.2	0.19	1		12/05/18 04:51	14808-79-8	M1
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.4	mg/L	0.50	0.088	5		12/13/18 15:14		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-4 **Lab ID: 10457409003** Collected: 11/29/18 09:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.54	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:11	7440-38-2	
Barium, Dissolved	75.9	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:11	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:11	7440-43-9	
Chromium, Dissolved	1.4	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:11	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:11	7440-48-4	
Copper, Dissolved	0.77J	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:11	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:11	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:11	7439-92-1	
Manganese, Dissolved	6.2	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:11	7439-96-5	
Nickel, Dissolved	0.41J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:11	7440-02-0	
Selenium, Dissolved	0.30J	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:11	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:11	7440-22-4	
Thallium, Dissolved	0.051J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:11	7440-28-0	B
Vanadium, Dissolved	3.0	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:11	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:11	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 04:15	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 04:15	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 04:15	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 04:15	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 04:15	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 04:15	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 04:15	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 04:15	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 04:15	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 04:15	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 04:15	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 04:15	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 04:15	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 04:15	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 04:15	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 04:15	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 04:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 04:15	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 04:15	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 04:15	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 04:15	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 04:15	110-57-6	
Dichlorodifluoromethane	0.26J	ug/L	1.0	0.23	1		12/07/18 04:15	75-71-8	
1,1-Dichloroethane	0.31J	ug/L	0.50	0.17	1		12/07/18 04:15	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 04:15	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 04:15	75-35-4	
cis-1,2-Dichloroethene	0.54	ug/L	0.50	0.15	1		12/07/18 04:15	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 04:15	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 04:15	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-4 **Lab ID: 10457409003** Collected: 11/29/18 09:30 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 04:15	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 04:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 04:15	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 04:15	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 04:15	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 04:15	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 04:15	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 04:15	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 04:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 04:15	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 04:15	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 04:15	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 04:15	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 04:15	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 04:15	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 04:15	79-34-5	
Tetrachloroethene	0.81	ug/L	0.50	0.17	1		12/07/18 04:15	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 04:15	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 04:15	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 04:15	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 04:15	79-00-5	
Trichloroethene	0.49	ug/L	0.40	0.15	1		12/07/18 04:15	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 04:15	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 04:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 04:15	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 04:15	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 04:15	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 04:15	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 04:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/07/18 04:15	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/07/18 04:15	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/07/18 04:15	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	20.5	mg/L	1.2	0.28	1		12/05/18 05:55	16887-00-6	M1
Sulfate	21.2	mg/L	1.2	0.19	1		12/05/18 05:55	14808-79-8	M1
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	2.4	mg/L	0.50	0.088	5		12/13/18 15:18		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-5 **Lab ID: 10457409004** Collected: 11/28/18 10:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.78	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 20:37	7440-38-2	
Barium, Dissolved	32.8	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 20:37	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 20:37	7440-43-9	
Chromium, Dissolved	2.8	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 20:37	7440-47-3	B
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 20:37	7440-48-4	
Copper, Dissolved	0.35J	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 20:37	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 20:37	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 20:37	7439-92-1	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/10/18 15:23	12/12/18 20:37	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 20:37	7440-02-0	
Selenium, Dissolved	0.26J	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 20:37	7782-49-2	
Silver, Dissolved	0.23J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 20:37	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 20:37	7440-28-0	
Vanadium, Dissolved	3.1	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 20:37	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 20:37	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 02:39	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 02:39	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 02:39	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 02:39	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 02:39	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 02:39	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 02:39	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 02:39	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 02:39	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 02:39	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 02:39	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 02:39	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 02:39	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 02:39	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 02:39	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 02:39	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 02:39	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 02:39	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 02:39	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 02:39	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 02:39	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 02:39	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 02:39	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 02:39	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 02:39	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 02:39	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 02:39	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 02:39	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 02:39	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-5 **Lab ID: 10457409004** Collected: 11/28/18 10:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 02:39	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 02:39	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 02:39	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 02:39	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 02:39	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 02:39	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 02:39	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 02:39	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 02:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 02:39	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 02:39	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 02:39	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 02:39	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 02:39	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 02:39	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 02:39	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/07/18 02:39	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 02:39	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 02:39	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 02:39	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 02:39	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 02:39	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 02:39	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 02:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 02:39	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 02:39	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 02:39	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 02:39	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 02:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 02:39	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/07/18 02:39	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/07/18 02:39	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	4.2	mg/L	1.2	0.28	1		12/05/18 07:00	16887-00-6	
Sulfate	9.1	mg/L	1.2	0.19	1		12/05/18 07:00	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.4	mg/L	0.50	0.088	5		12/13/18 15:19		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-6 **Lab ID: 10457409005** Collected: 11/29/18 12:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.57	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 20:43	7440-38-2	
Barium, Dissolved	99.6	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 20:43	7440-39-3	
Cadmium, Dissolved	0.031J	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 20:43	7440-43-9	
Chromium, Dissolved	0.62	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 20:43	7440-47-3	B
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 20:43	7440-48-4	
Copper, Dissolved	1.3	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 20:43	7440-50-8	
Iron, Dissolved	23.0J	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 20:43	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 20:43	7439-92-1	
Manganese, Dissolved	55.5	ug/L	0.50	0.24	1	12/10/18 15:23	12/12/18 20:43	7439-96-5	
Nickel, Dissolved	2.7	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 20:43	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 20:43	7782-49-2	
Silver, Dissolved	0.19J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 20:43	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 20:43	7440-28-0	
Vanadium, Dissolved	2.8	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 20:43	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 20:43	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 04:39	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 04:39	107-13-1	
Benzene	0.21J	ug/L	0.50	0.10	1		12/07/18 04:39	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 04:39	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 04:39	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 04:39	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 04:39	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 04:39	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 04:39	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 04:39	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 04:39	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 04:39	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 04:39	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 04:39	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 04:39	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 04:39	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 04:39	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 04:39	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 04:39	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 04:39	95-50-1	
1,4-Dichlorobenzene	0.20J	ug/L	0.50	0.17	1		12/07/18 04:39	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 04:39	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 04:39	75-71-8	
1,1-Dichloroethane	0.83	ug/L	0.50	0.17	1		12/07/18 04:39	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 04:39	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 04:39	75-35-4	
cis-1,2-Dichloroethene	1.6	ug/L	0.50	0.15	1		12/07/18 04:39	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 04:39	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 04:39	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-6 **Lab ID: 10457409005** Collected: 11/29/18 12:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 04:39	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 04:39	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 04:39	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 04:39	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 04:39	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 04:39	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 04:39	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 04:39	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 04:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 04:39	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 04:39	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 04:39	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 04:39	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 04:39	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 04:39	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 04:39	79-34-5	
Tetrachloroethene	0.48J	ug/L	0.50	0.17	1		12/07/18 04:39	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 04:39	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 04:39	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 04:39	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 04:39	79-00-5	
Trichloroethene	0.37J	ug/L	0.40	0.15	1		12/07/18 04:39	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 04:39	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 04:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 04:39	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 04:39	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 04:39	108-05-4	
Vinyl chloride	2.1	ug/L	0.20	0.092	1		12/07/18 04:39	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 04:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 04:39	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/07/18 04:39	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/07/18 04:39	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	40.7	mg/L	1.2	0.28	1		12/05/18 07:15	16887-00-6	
Sulfate	33.1	mg/L	1.2	0.19	1		12/05/18 07:15	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.67	mg/L	0.10	0.018	1		12/13/18 14:41		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-7A **Lab ID: 10457409006** Collected: 11/28/18 15:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 03:03	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 03:03	107-13-1	
Benzene	0.18J	ug/L	0.50	0.10	1		12/07/18 03:03	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 03:03	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:03	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 03:03	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 03:03	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 03:03	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 03:03	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 03:03	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:03	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 03:03	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 03:03	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:03	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 03:03	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 03:03	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 03:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 03:03	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 03:03	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:03	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:03	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 03:03	110-57-6	
Dichlorodifluoromethane	1.5	ug/L	1.0	0.23	1		12/07/18 03:03	75-71-8	
1,1-Dichloroethane	2.0	ug/L	0.50	0.17	1		12/07/18 03:03	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:03	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 03:03	75-35-4	
cis-1,2-Dichloroethene	0.66	ug/L	0.50	0.15	1		12/07/18 03:03	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 03:03	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:03	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 03:03	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 03:03	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 03:03	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:03	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 03:03	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 03:03	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 03:03	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 03:03	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 03:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 03:03	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 03:03	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 03:03	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 03:03	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 03:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 03:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 03:03	79-34-5	
Tetrachloroethene	1.8	ug/L	0.50	0.17	1		12/07/18 03:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-7A **Lab ID: 10457409006** Collected: 11/28/18 15:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 03:03	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 03:03	108-88-3	
1,1,1-Trichloroethane	0.17J	ug/L	0.50	0.14	1		12/07/18 03:03	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 03:03	79-00-5	
Trichloroethene	2.0	ug/L	0.40	0.15	1		12/07/18 03:03	79-01-6	
Trichlorofluoromethane	0.33J	ug/L	0.50	0.23	1		12/07/18 03:03	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 03:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 03:03	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 03:03	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 03:03	108-05-4	
Vinyl chloride	0.29	ug/L	0.20	0.092	1		12/07/18 03:03	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 03:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/07/18 03:03	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/07/18 03:03	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 03:03	460-00-4	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.2	mg/L	0.50	0.088	5		12/13/18 15:20		FS

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-8A **Lab ID: 10457409007** Collected: 11/28/18 11:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.67	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:16	7440-38-2	
Barium, Dissolved	72.4	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:16	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:16	7440-43-9	
Chromium, Dissolved	6.8	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:16	7440-47-3	
Cobalt, Dissolved	0.090J	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:16	7440-48-4	
Copper, Dissolved	1.3	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:16	7440-50-8	
Iron, Dissolved	7.8J	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:16	7439-89-6	
Lead, Dissolved	0.064J	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:16	7439-92-1	B
Manganese, Dissolved	0.64	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:16	7439-96-5	
Nickel, Dissolved	1.2	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:16	7440-02-0	
Selenium, Dissolved	1.3	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:16	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:16	7440-22-4	
Thallium, Dissolved	0.035J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:16	7440-28-0	B
Vanadium, Dissolved	2.9	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:16	7440-62-2	
Zinc, Dissolved	2.7J	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:16	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 03:27	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 03:27	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 03:27	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 03:27	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:27	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 03:27	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 03:27	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 03:27	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 03:27	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 03:27	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:27	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 03:27	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 03:27	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:27	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 03:27	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 03:27	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 03:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 03:27	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 03:27	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:27	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:27	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 03:27	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 03:27	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 03:27	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:27	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 03:27	75-35-4	
cis-1,2-Dichloroethene	0.59	ug/L	0.50	0.15	1		12/07/18 03:27	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 03:27	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:27	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-8A **Lab ID: 10457409007** Collected: 11/28/18 11:30 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 03:27	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 03:27	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 03:27	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:27	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 03:27	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 03:27	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 03:27	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 03:27	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 03:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 03:27	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 03:27	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 03:27	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 03:27	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 03:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 03:27	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 03:27	79-34-5	
Tetrachloroethene	0.69	ug/L	0.50	0.17	1		12/07/18 03:27	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 03:27	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 03:27	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 03:27	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 03:27	79-00-5	
Trichloroethene	0.21J	ug/L	0.40	0.15	1		12/07/18 03:27	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 03:27	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 03:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 03:27	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 03:27	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 03:27	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 03:27	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 03:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 03:27	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/07/18 03:27	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/07/18 03:27	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	54.8	mg/L	1.2	0.28	1		12/05/18 08:01	16887-00-6	
Sulfate	32.1	mg/L	1.2	0.19	1		12/05/18 08:01	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	9.1	mg/L	1.0	0.18	10		12/13/18 15:21		FS

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-9A **Lab ID: 10457409008** Collected: 11/29/18 10:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.52	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:51	7440-38-2	
Barium, Dissolved	78.6	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:51	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:51	7440-43-9	
Chromium, Dissolved	1.6	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:51	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:51	7440-48-4	
Copper, Dissolved	0.52J	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:51	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:51	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:51	7439-92-1	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:51	7439-96-5	
Nickel, Dissolved	0.72	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:51	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:51	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:51	7440-22-4	
Thallium, Dissolved	0.050J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:51	7440-28-0	B
Vanadium, Dissolved	3.4	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:51	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:51	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/10/18 22:26	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/10/18 22:26	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/10/18 22:26	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/10/18 22:26	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/10/18 22:26	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/10/18 22:26	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/10/18 22:26	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/10/18 22:26	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/10/18 22:26	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/10/18 22:26	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 22:26	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/10/18 22:26	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/10/18 22:26	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/10/18 22:26	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/10/18 22:26	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/10/18 22:26	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/10/18 22:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/10/18 22:26	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/10/18 22:26	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 22:26	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 22:26	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/10/18 22:26	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/10/18 22:26	75-71-8	
1,1-Dichloroethane	0.38J	ug/L	0.50	0.17	1		12/10/18 22:26	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/10/18 22:26	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/10/18 22:26	75-35-4	
cis-1,2-Dichloroethene	0.76	ug/L	0.50	0.15	1		12/10/18 22:26	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/18 22:26	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/10/18 22:26	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-9A Lab ID: 10457409008 Collected: 11/29/18 10:30 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/10/18 22:26	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/10/18 22:26	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/10/18 22:26	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 22:26	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/10/18 22:26	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/10/18 22:26	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/10/18 22:26	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/10/18 22:26	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/10/18 22:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/10/18 22:26	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/10/18 22:26	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/10/18 22:26	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/10/18 22:26	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/10/18 22:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/10/18 22:26	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/10/18 22:26	79-34-5	
Tetrachloroethene	1.3	ug/L	0.50	0.17	1		12/10/18 22:26	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/10/18 22:26	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/10/18 22:26	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/10/18 22:26	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/10/18 22:26	79-00-5	
Trichloroethene	0.82	ug/L	0.40	0.15	1		12/10/18 22:26	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/10/18 22:26	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/10/18 22:26	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/10/18 22:26	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/10/18 22:26	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/10/18 22:26	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/10/18 22:26	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/10/18 22:26	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/10/18 22:26	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/10/18 22:26	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1		12/10/18 22:26	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	23.6	mg/L	1.2	0.28	1		12/05/18 08:16	16887-00-6	
Sulfate	19.4	mg/L	1.2	0.19	1		12/05/18 08:16	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.0	mg/L	0.50	0.088	5		12/13/18 15:22		FS

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-10 **Lab ID: 10457409009** Collected: 11/27/18 10:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 22:16	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 22:16	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 22:16	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 22:16	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 22:16	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 22:16	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 22:16	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 22:16	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 22:16	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 22:16	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 22:16	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 22:16	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 22:16	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 22:16	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 22:16	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 22:16	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 22:16	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 22:16	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 22:16	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 22:16	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 22:16	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 22:16	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/06/18 22:16	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 22:16	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 22:16	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 22:16	75-35-4	
cis-1,2-Dichloroethene	0.23J	ug/L	0.50	0.15	1		12/06/18 22:16	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 22:16	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 22:16	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/06/18 22:16	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 22:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 22:16	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 22:16	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 22:16	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 22:16	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 22:16	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 22:16	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 22:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 22:16	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 22:16	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 22:16	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 22:16	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 22:16	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 22:16	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 22:16	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/06/18 22:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-10 **Lab ID: 10457409009** Collected: 11/27/18 10:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 22:16	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/06/18 22:16	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 22:16	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 22:16	79-00-5	
Trichloroethene	0.32J	ug/L	0.40	0.15	1		12/06/18 22:16	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 22:16	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 22:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 22:16	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 22:16	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 22:16	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 22:16	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 22:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/06/18 22:16	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/06/18 22:16	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/06/18 22:16	460-00-4	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	<0.018	mg/L	0.10	0.018	1		12/13/18 14:45		FS,M1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-11 Lab ID: 10457409010 Collected: 11/28/18 14:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 03:51	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 03:51	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 03:51	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 03:51	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:51	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 03:51	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 03:51	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 03:51	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 03:51	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 03:51	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:51	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 03:51	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 03:51	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:51	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 03:51	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 03:51	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 03:51	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 03:51	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 03:51	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:51	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 03:51	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 03:51	110-57-6	
Dichlorodifluoromethane	2.3	ug/L	1.0	0.23	1		12/07/18 03:51	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 03:51	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 03:51	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 03:51	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 03:51	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 03:51	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 03:51	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 03:51	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 03:51	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 03:51	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 03:51	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 03:51	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 03:51	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 03:51	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 03:51	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 03:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 03:51	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 03:51	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 03:51	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 03:51	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 03:51	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 03:51	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 03:51	79-34-5	
Tetrachloroethene	0.20J	ug/L	0.50	0.17	1		12/07/18 03:51	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-11 **Lab ID: 10457409010** Collected: 11/28/18 14:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 03:51	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 03:51	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 03:51	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 03:51	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 03:51	79-01-6	
Trichlorofluoromethane	1.8	ug/L	0.50	0.23	1		12/07/18 03:51	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 03:51	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 03:51	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 03:51	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 03:51	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 03:51	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 03:51	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 03:51	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/07/18 03:51	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 03:51	460-00-4	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	6.5	mg/L	0.50	0.088	5		12/13/18 15:23		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-12 **Lab ID: 10457409011** Collected: 11/28/18 13:50 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	1.5	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:05	7440-38-2	
Barium, Dissolved	160	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 21:05	7440-39-3	
Cadmium, Dissolved	0.073J	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 21:05	7440-43-9	
Chromium, Dissolved	<0.16	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 21:05	7440-47-3	
Cobalt, Dissolved	5.2	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 21:05	7440-48-4	
Copper, Dissolved	0.68J	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 21:05	7440-50-8	
Iron, Dissolved	3830	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 21:05	7439-89-6	
Lead, Dissolved	0.062J	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 21:05	7439-92-1	
Manganese, Dissolved	6490	ug/L	10.0	4.7	20	12/10/18 15:23	12/12/18 21:07	7439-96-5	
Nickel, Dissolved	5.5	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:05	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 21:05	7782-49-2	
Silver, Dissolved	0.17J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 21:05	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 21:05	7440-28-0	
Vanadium, Dissolved	<0.27	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 21:05	7440-62-2	
Zinc, Dissolved	2.7J	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 21:05	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/08/18 00:01	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/08/18 00:01	107-13-1	
Benzene	0.54	ug/L	0.50	0.10	1		12/08/18 00:01	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/08/18 00:01	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/08/18 00:01	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/08/18 00:01	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/08/18 00:01	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/08/18 00:01	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/08/18 00:01	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/08/18 00:01	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:01	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/08/18 00:01	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/08/18 00:01	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/08/18 00:01	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/08/18 00:01	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/08/18 00:01	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/08/18 00:01	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/08/18 00:01	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/08/18 00:01	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:01	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:01	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/08/18 00:01	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/08/18 00:01	75-71-8	
1,1-Dichloroethane	0.96	ug/L	0.50	0.17	1		12/08/18 00:01	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/08/18 00:01	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/08/18 00:01	75-35-4	
cis-1,2-Dichloroethene	5.4	ug/L	0.50	0.15	1		12/08/18 00:01	156-59-2	
trans-1,2-Dichloroethene	0.12J	ug/L	0.50	0.12	1		12/08/18 00:01	156-60-5	
1,2-Dichloropropane	0.33J	ug/L	4.0	0.16	1		12/08/18 00:01	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-12 **Lab ID: 10457409011** Collected: 11/28/18 13:50 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/08/18 00:01	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/08/18 00:01	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/08/18 00:01	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:01	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/08/18 00:01	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/08/18 00:01	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/08/18 00:01	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/08/18 00:01	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/08/18 00:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/08/18 00:01	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/08/18 00:01	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/08/18 00:01	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/08/18 00:01	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/08/18 00:01	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/08/18 00:01	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 00:01	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:01	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/08/18 00:01	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/08/18 00:01	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/08/18 00:01	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/08/18 00:01	79-00-5	
Trichloroethene	0.29J	ug/L	0.40	0.15	1		12/08/18 00:01	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/08/18 00:01	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/08/18 00:01	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/08/18 00:01	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/08/18 00:01	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/08/18 00:01	108-05-4	
Vinyl chloride	10.0	ug/L	0.20	0.092	1		12/08/18 00:01	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/08/18 00:01	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		12/08/18 00:01	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		12/08/18 00:01	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/08/18 00:01	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	32.2	mg/L	1.2	0.28	1		12/05/18 08:31	16887-00-6	
Sulfate	26.9	mg/L	1.2	0.19	1		12/05/18 08:31	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.020J	mg/L	0.10	0.018	1		12/13/18 14:54		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-13 **Lab ID: 10457409012** Collected: 11/29/18 11:10 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.55	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:10	7440-38-2	
Barium, Dissolved	112	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 21:10	7440-39-3	
Cadmium, Dissolved	0.31	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 21:10	7440-43-9	
Chromium, Dissolved	0.16J	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 21:10	7440-47-3	B
Cobalt, Dissolved	0.56	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 21:10	7440-48-4	
Copper, Dissolved	1.9	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 21:10	7440-50-8	
Iron, Dissolved	39.0J	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 21:10	7439-89-6	
Lead, Dissolved	0.42	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 21:10	7439-92-1	
Manganese, Dissolved	1870	ug/L	10.0	4.7	20	12/10/18 15:23	12/12/18 21:13	7439-96-5	
Nickel, Dissolved	5.2	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:10	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 21:10	7782-49-2	
Silver, Dissolved	0.20J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 21:10	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 21:10	7440-28-0	
Vanadium, Dissolved	2.8	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 21:10	7440-62-2	
Zinc, Dissolved	2.4J	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 21:10	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/10/18 22:50	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/10/18 22:50	107-13-1	
Benzene	0.61	ug/L	0.50	0.10	1		12/10/18 22:50	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/10/18 22:50	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/10/18 22:50	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/10/18 22:50	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/10/18 22:50	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/10/18 22:50	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/10/18 22:50	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/10/18 22:50	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 22:50	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/10/18 22:50	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/10/18 22:50	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/10/18 22:50	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/10/18 22:50	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/10/18 22:50	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/10/18 22:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/10/18 22:50	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/10/18 22:50	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 22:50	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 22:50	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/10/18 22:50	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/10/18 22:50	75-71-8	
1,1-Dichloroethane	0.73	ug/L	0.50	0.17	1		12/10/18 22:50	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/10/18 22:50	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/10/18 22:50	75-35-4	
cis-1,2-Dichloroethene	0.81	ug/L	0.50	0.15	1		12/10/18 22:50	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/18 22:50	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/10/18 22:50	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-13 **Lab ID: 10457409012** Collected: 11/29/18 11:10 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/10/18 22:50	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/10/18 22:50	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/10/18 22:50	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 22:50	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/10/18 22:50	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/10/18 22:50	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/10/18 22:50	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/10/18 22:50	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/10/18 22:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/10/18 22:50	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/10/18 22:50	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/10/18 22:50	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/10/18 22:50	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/10/18 22:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/10/18 22:50	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/10/18 22:50	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/10/18 22:50	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/10/18 22:50	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/10/18 22:50	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/10/18 22:50	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/10/18 22:50	79-00-5	
Trichloroethene	0.31J	ug/L	0.40	0.15	1		12/10/18 22:50	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/10/18 22:50	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/10/18 22:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/10/18 22:50	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/10/18 22:50	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/10/18 22:50	108-05-4	
Vinyl chloride	8.7	ug/L	0.20	0.092	1		12/10/18 22:50	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/10/18 22:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/10/18 22:50	17060-07-0	
Toluene-d8 (S)	94	%	75-125		1		12/10/18 22:50	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/10/18 22:50	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	52.2	mg/L	1.2	0.28	1		12/05/18 08:46	16887-00-6	
Sulfate	28.1	mg/L	1.2	0.19	1		12/05/18 08:46	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.028J	mg/L	0.10	0.018	1		12/13/18 14:55		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-15 **Lab ID: 10457409013** Collected: 11/28/18 10:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.40J	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:16	7440-38-2	
Barium, Dissolved	46.7	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 21:16	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 21:16	7440-43-9	
Chromium, Dissolved	2.3	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 21:16	7440-47-3	B
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 21:16	7440-48-4	
Copper, Dissolved	<0.22	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 21:16	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 21:16	7439-89-6	
Lead, Dissolved	0.051J	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 21:16	7439-92-1	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/10/18 15:23	12/12/18 21:16	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:16	7440-02-0	
Selenium, Dissolved	0.30J	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 21:16	7782-49-2	
Silver, Dissolved	0.21J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 21:16	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 21:16	7440-28-0	
Vanadium, Dissolved	1.8	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 21:16	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 21:16	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/08/18 00:25	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/08/18 00:25	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/08/18 00:25	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/08/18 00:25	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/08/18 00:25	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/08/18 00:25	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/08/18 00:25	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/08/18 00:25	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/08/18 00:25	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/08/18 00:25	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:25	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/08/18 00:25	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/08/18 00:25	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/08/18 00:25	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/08/18 00:25	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/08/18 00:25	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/08/18 00:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/08/18 00:25	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/08/18 00:25	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:25	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:25	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/08/18 00:25	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/08/18 00:25	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 00:25	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/08/18 00:25	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/08/18 00:25	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/08/18 00:25	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/08/18 00:25	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/08/18 00:25	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-15 **Lab ID: 10457409013** Collected: 11/28/18 10:30 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/08/18 00:25	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/08/18 00:25	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/08/18 00:25	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:25	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/08/18 00:25	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/08/18 00:25	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/08/18 00:25	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/08/18 00:25	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/08/18 00:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/08/18 00:25	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/08/18 00:25	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/08/18 00:25	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/08/18 00:25	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/08/18 00:25	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/08/18 00:25	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 00:25	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:25	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/08/18 00:25	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/08/18 00:25	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/08/18 00:25	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/08/18 00:25	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/08/18 00:25	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/08/18 00:25	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/08/18 00:25	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/08/18 00:25	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/08/18 00:25	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/08/18 00:25	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/08/18 00:25	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/08/18 00:25	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		12/08/18 00:25	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/08/18 00:25	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/08/18 00:25	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	4.0	mg/L	1.2	0.28	1		12/05/18 09:01	16887-00-6	
Sulfate	16.3	mg/L	1.2	0.19	1		12/05/18 09:01	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.2	mg/L	0.50	0.088	5		12/13/18 15:27		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-17 **Lab ID: 10457409014** Collected: 11/28/18 13:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.59	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:55	7440-38-2	
Barium, Dissolved	126	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:55	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:55	7440-43-9	
Chromium, Dissolved	2.7	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:55	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:55	7440-48-4	
Copper, Dissolved	0.46J	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:55	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:55	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:55	7439-92-1	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:55	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:55	7440-02-0	
Selenium, Dissolved	1.8	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:55	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:55	7440-22-4	
Thallium, Dissolved	0.035J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:55	7440-28-0	B
Vanadium, Dissolved	2.3	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:55	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:55	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/08/18 00:49	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/08/18 00:49	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/08/18 00:49	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/08/18 00:49	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/08/18 00:49	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/08/18 00:49	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/08/18 00:49	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/08/18 00:49	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/08/18 00:49	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/08/18 00:49	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:49	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/08/18 00:49	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/08/18 00:49	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/08/18 00:49	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/08/18 00:49	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/08/18 00:49	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/08/18 00:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/08/18 00:49	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/08/18 00:49	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:49	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 00:49	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/08/18 00:49	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/08/18 00:49	75-71-8	
1,1-Dichloroethane	0.79	ug/L	0.50	0.17	1		12/08/18 00:49	75-34-3	
1,2-Dichloroethane	0.26J	ug/L	0.50	0.22	1		12/08/18 00:49	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/08/18 00:49	75-35-4	
cis-1,2-Dichloroethene	18.7	ug/L	0.50	0.15	1		12/08/18 00:49	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/08/18 00:49	156-60-5	
1,2-Dichloropropane	1.3J	ug/L	4.0	0.16	1		12/08/18 00:49	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-17 **Lab ID: 10457409014** Collected: 11/28/18 13:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/08/18 00:49	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/08/18 00:49	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/08/18 00:49	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 00:49	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/08/18 00:49	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/08/18 00:49	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/08/18 00:49	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/08/18 00:49	98-82-8	
Methylene Chloride	9.4	ug/L	4.0	0.98	1		12/08/18 00:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/08/18 00:49	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/08/18 00:49	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/08/18 00:49	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/08/18 00:49	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/08/18 00:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/08/18 00:49	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 00:49	79-34-5	
Tetrachloroethene	6.2	ug/L	0.50	0.17	1		12/08/18 00:49	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/08/18 00:49	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/08/18 00:49	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/08/18 00:49	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/08/18 00:49	79-00-5	
Trichloroethene	3.2	ug/L	0.40	0.15	1		12/08/18 00:49	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/08/18 00:49	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/08/18 00:49	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/08/18 00:49	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/08/18 00:49	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/08/18 00:49	108-05-4	
Vinyl chloride	0.35	ug/L	0.20	0.092	1		12/08/18 00:49	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/08/18 00:49	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/08/18 00:49	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		12/08/18 00:49	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/08/18 00:49	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	74.3	mg/L	1.2	0.28	1		12/05/18 09:16	16887-00-6	
Sulfate	34.2	mg/L	1.2	0.19	1		12/05/18 09:16	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-18 **Lab ID: 10457409015** Collected: 11/28/18 12:15 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Arsenic, Dissolved	4.7	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:32	7440-38-2	
Barium, Dissolved	227	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 21:32	7440-39-3	
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 21:32	7440-43-9	
Chromium, Dissolved	0.38J	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 21:32	7440-47-3	B
Cobalt, Dissolved	12.0	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 21:32	7440-48-4	
Copper, Dissolved	0.69J	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 21:32	7440-50-8	
Iron, Dissolved	2730	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 21:32	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 21:32	7439-92-1	
Manganese, Dissolved	11400	ug/L	25.0	11.8	50	12/10/18 15:23	12/13/18 10:51	7439-96-5	
Nickel, Dissolved	22.7	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 21:32	7440-02-0	
Selenium, Dissolved	0.33J	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 21:32	7782-49-2	
Silver, Dissolved	0.18J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 21:32	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 21:32	7440-28-0	
Vanadium, Dissolved	0.95J	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 21:32	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 21:32	7440-66-6	
8260B MSV Low Level									
Analytical Method: EPA 8260B									
Acetone	<9.2	ug/L	20.0	9.2	1		12/08/18 01:13	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/08/18 01:13	107-13-1	
Benzene	0.67	ug/L	0.50	0.10	1		12/08/18 01:13	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/08/18 01:13	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/08/18 01:13	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/08/18 01:13	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/08/18 01:13	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/08/18 01:13	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/08/18 01:13	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/08/18 01:13	56-23-5	
Chlorobenzene	0.22J	ug/L	0.50	0.17	1		12/08/18 01:13	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/08/18 01:13	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/08/18 01:13	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/08/18 01:13	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/08/18 01:13	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/08/18 01:13	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/08/18 01:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/08/18 01:13	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/08/18 01:13	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 01:13	95-50-1	
1,4-Dichlorobenzene	1.2	ug/L	0.50	0.17	1		12/08/18 01:13	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/08/18 01:13	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/08/18 01:13	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 01:13	75-34-3	
1,2-Dichloroethane	0.34J	ug/L	0.50	0.22	1		12/08/18 01:13	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/08/18 01:13	75-35-4	
cis-1,2-Dichloroethene	1.7	ug/L	0.50	0.15	1		12/08/18 01:13	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/08/18 01:13	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/08/18 01:13	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-18 **Lab ID: 10457409015** Collected: 11/28/18 12:15 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/08/18 01:13	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/08/18 01:13	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/08/18 01:13	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 01:13	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/08/18 01:13	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/08/18 01:13	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/08/18 01:13	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/08/18 01:13	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/08/18 01:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	0.71J	ug/L	5.0	0.42	1		12/08/18 01:13	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/08/18 01:13	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/08/18 01:13	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/08/18 01:13	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/08/18 01:13	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/08/18 01:13	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 01:13	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/08/18 01:13	127-18-4	
Tetrahydrofuran	12.9	ug/L	10.0	2.2	1		12/08/18 01:13	109-99-9	
Toluene	0.38J	ug/L	0.50	0.083	1		12/08/18 01:13	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/08/18 01:13	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/08/18 01:13	79-00-5	
Trichloroethene	0.32J	ug/L	0.40	0.15	1		12/08/18 01:13	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/08/18 01:13	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/08/18 01:13	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/08/18 01:13	76-13-1	
1,2,4-Trimethylbenzene	0.23J	ug/L	0.50	0.20	1		12/08/18 01:13	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/08/18 01:13	108-05-4	
Vinyl chloride	3.8	ug/L	0.20	0.092	1		12/08/18 01:13	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/08/18 01:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		12/08/18 01:13	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/08/18 01:13	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/08/18 01:13	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	271	mg/L	6.0	1.4	5		12/05/18 22:32	16887-00-6	
Sulfate	11.5	mg/L	1.2	0.19	1		12/05/18 09:31	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-19 Lab ID: 10457409016 Collected: 11/27/18 14:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 22:40	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 22:40	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 22:40	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 22:40	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 22:40	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 22:40	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 22:40	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 22:40	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 22:40	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 22:40	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 22:40	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 22:40	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 22:40	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 22:40	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 22:40	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 22:40	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 22:40	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 22:40	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 22:40	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 22:40	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 22:40	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 22:40	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/06/18 22:40	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 22:40	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 22:40	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 22:40	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/06/18 22:40	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 22:40	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 22:40	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/06/18 22:40	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 22:40	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 22:40	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 22:40	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 22:40	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 22:40	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 22:40	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 22:40	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 22:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 22:40	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 22:40	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 22:40	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 22:40	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 22:40	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 22:40	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 22:40	79-34-5	
Tetrachloroethene	0.68	ug/L	0.50	0.17	1		12/06/18 22:40	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-19 **Lab ID: 10457409016** Collected: 11/27/18 14:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 22:40	109-99-9	
Toluene	0.27J	ug/L	0.50	0.083	1		12/06/18 22:40	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 22:40	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 22:40	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/06/18 22:40	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 22:40	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 22:40	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 22:40	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 22:40	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 22:40	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 22:40	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 22:40	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/06/18 22:40	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/06/18 22:40	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/06/18 22:40	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-20 **Lab ID: 10457409017** Collected: 11/27/18 15:50 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Arsenic, Dissolved	0.37J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:59	7440-38-2	
Barium, Dissolved	95.2	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 06:59	7440-39-3	
Cadmium, Dissolved	0.040J	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 06:59	7440-43-9	
Chromium, Dissolved	6.2	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 06:59	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 06:59	7440-48-4	
Copper, Dissolved	1.4	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 06:59	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 06:59	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 06:59	7439-92-1	
Manganese, Dissolved	0.27J	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 06:59	7439-96-5	
Nickel, Dissolved	0.39J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 06:59	7440-02-0	
Selenium, Dissolved	2.9	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 06:59	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 06:59	7440-22-4	
Thallium, Dissolved	0.032J	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 06:59	7440-28-0	B
Vanadium, Dissolved	1.0	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 06:59	7440-62-2	
Zinc, Dissolved	4.0J	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 06:59	7440-66-6	
8260B MSV Low Level									
Analytical Method: EPA 8260B									
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 23:04	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 23:04	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:04	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 23:04	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:04	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 23:04	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 23:04	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 23:04	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 23:04	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 23:04	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:04	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 23:04	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 23:04	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:04	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 23:04	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 23:04	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 23:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 23:04	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 23:04	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:04	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:04	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 23:04	110-57-6	
Dichlorodifluoromethane	0.27J	ug/L	1.0	0.23	1		12/06/18 23:04	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:04	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:04	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 23:04	75-35-4	
cis-1,2-Dichloroethene	0.25J	ug/L	0.50	0.15	1		12/06/18 23:04	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 23:04	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:04	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-20 **Lab ID: 10457409017** Collected: 11/27/18 15:50 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/06/18 23:04	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 23:04	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 23:04	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:04	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 23:04	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 23:04	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 23:04	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 23:04	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 23:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 23:04	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 23:04	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 23:04	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:04	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 23:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 23:04	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:04	79-34-5	
Tetrachloroethene	6.7	ug/L	0.50	0.17	1		12/06/18 23:04	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 23:04	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/06/18 23:04	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 23:04	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 23:04	79-00-5	
Trichloroethene	0.32J	ug/L	0.40	0.15	1		12/06/18 23:04	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 23:04	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 23:04	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 23:04	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 23:04	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 23:04	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 23:04	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 23:04	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/06/18 23:04	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/06/18 23:04	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/06/18 23:04	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	51.0	mg/L	1.2	0.28	1		12/05/18 09:46	16887-00-6	
Sulfate	61.2	mg/L	1.2	0.19	1		12/05/18 09:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-21 Lab ID: 10457409018 Collected: 11/27/18 12:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 23:28	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 23:28	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:28	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 23:28	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:28	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 23:28	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 23:28	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 23:28	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 23:28	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 23:28	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:28	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 23:28	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 23:28	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:28	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 23:28	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 23:28	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 23:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 23:28	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 23:28	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:28	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:28	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 23:28	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/06/18 23:28	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:28	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:28	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 23:28	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/06/18 23:28	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 23:28	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:28	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/06/18 23:28	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 23:28	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 23:28	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:28	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 23:28	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 23:28	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 23:28	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 23:28	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 23:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 23:28	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 23:28	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 23:28	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:28	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 23:28	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 23:28	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:28	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:28	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-21 **Lab ID: 10457409018** Collected: 11/27/18 12:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 23:28	109-99-9	
Toluene	0.13J	ug/L	0.50	0.083	1		12/06/18 23:28	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 23:28	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 23:28	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/06/18 23:28	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 23:28	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 23:28	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 23:28	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 23:28	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 23:28	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 23:28	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 23:28	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/06/18 23:28	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/06/18 23:28	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/06/18 23:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-22 **Lab ID: 10457409019** Collected: 11/27/18 12:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/06/18 23:52	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/06/18 23:52	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:52	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/06/18 23:52	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:52	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/06/18 23:52	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/06/18 23:52	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/06/18 23:52	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/06/18 23:52	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/06/18 23:52	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:52	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/06/18 23:52	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/06/18 23:52	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:52	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/06/18 23:52	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/06/18 23:52	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/06/18 23:52	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/06/18 23:52	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/06/18 23:52	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:52	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:52	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/06/18 23:52	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/06/18 23:52	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:52	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/06/18 23:52	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/06/18 23:52	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/06/18 23:52	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/06/18 23:52	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/06/18 23:52	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/06/18 23:52	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/06/18 23:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/06/18 23:52	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/06/18 23:52	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/06/18 23:52	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/06/18 23:52	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/06/18 23:52	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/06/18 23:52	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/06/18 23:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/06/18 23:52	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/06/18 23:52	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/06/18 23:52	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/06/18 23:52	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/06/18 23:52	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/06/18 23:52	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/06/18 23:52	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/06/18 23:52	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-22 **Lab ID: 10457409019** Collected: 11/27/18 12:40 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/06/18 23:52	109-99-9	
Toluene	0.11J	ug/L	0.50	0.083	1		12/06/18 23:52	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/06/18 23:52	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/06/18 23:52	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/06/18 23:52	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/06/18 23:52	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/06/18 23:52	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/06/18 23:52	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/06/18 23:52	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/06/18 23:52	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/06/18 23:52	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/06/18 23:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/06/18 23:52	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/06/18 23:52	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/06/18 23:52	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-23 **Lab ID: 10457409020** Collected: 11/27/18 13:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 00:16	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 00:16	107-13-1	
Benzene	0.22J	ug/L	0.50	0.10	1		12/07/18 00:16	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 00:16	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 00:16	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 00:16	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 00:16	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 00:16	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 00:16	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 00:16	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 00:16	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 00:16	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 00:16	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 00:16	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 00:16	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 00:16	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 00:16	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 00:16	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 00:16	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 00:16	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 00:16	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 00:16	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 00:16	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 00:16	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 00:16	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 00:16	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 00:16	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 00:16	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 00:16	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 00:16	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 00:16	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 00:16	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 00:16	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 00:16	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 00:16	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 00:16	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 00:16	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 00:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 00:16	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 00:16	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 00:16	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 00:16	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 00:16	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 00:16	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 00:16	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/07/18 00:16	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-23 **Lab ID: 10457409020** Collected: 11/27/18 13:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 00:16	109-99-9	
Toluene	0.42J	ug/L	0.50	0.083	1		12/07/18 00:16	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 00:16	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 00:16	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 00:16	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 00:16	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 00:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 00:16	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 00:16	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 00:16	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 00:16	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 00:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/07/18 00:16	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/07/18 00:16	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 00:16	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-24 **Lab ID: 10457409021** Collected: 11/27/18 15:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 00:39	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 00:39	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 00:39	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 00:39	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 00:39	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 00:39	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 00:39	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 00:39	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 00:39	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 00:39	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 00:39	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 00:39	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 00:39	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 00:39	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 00:39	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 00:39	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 00:39	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 00:39	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 00:39	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 00:39	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 00:39	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 00:39	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 00:39	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 00:39	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 00:39	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 00:39	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 00:39	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 00:39	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 00:39	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 00:39	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 00:39	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 00:39	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 00:39	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 00:39	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 00:39	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 00:39	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 00:39	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 00:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 00:39	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 00:39	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 00:39	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 00:39	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 00:39	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 00:39	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 00:39	79-34-5	
Tetrachloroethene	3.0	ug/L	0.50	0.17	1		12/07/18 00:39	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-24 **Lab ID: 10457409021** Collected: 11/27/18 15:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 00:39	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 00:39	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 00:39	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 00:39	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 00:39	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 00:39	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 00:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 00:39	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 00:39	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 00:39	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 00:39	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 00:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/07/18 00:39	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/07/18 00:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/07/18 00:39	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-27 **Lab ID: 10457409022** Collected: 11/27/18 14:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.69	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:03	7440-38-2	
Barium, Dissolved	46.9	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 07:03	7440-39-3	
Cadmium, Dissolved	0.037J	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 07:03	7440-43-9	
Chromium, Dissolved	5.6	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 07:03	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 07:03	7440-48-4	
Copper, Dissolved	0.49J	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 07:03	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 07:03	7439-89-6	
Lead, Dissolved	0.10	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 07:03	7439-92-1	B
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 07:03	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:03	7440-02-0	
Selenium, Dissolved	2.8	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 07:03	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 07:03	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 07:03	7440-28-0	
Vanadium, Dissolved	2.4	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 07:03	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 07:03	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 01:03	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 01:03	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:03	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 01:03	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:03	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 01:03	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 01:03	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 01:03	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 01:03	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 01:03	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:03	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 01:03	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 01:03	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:03	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 01:03	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 01:03	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 01:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 01:03	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 01:03	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:03	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:03	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 01:03	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 01:03	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:03	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:03	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 01:03	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 01:03	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 01:03	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:03	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: MW-27 **Lab ID: 10457409022** Collected: 11/27/18 14:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 01:03	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 01:03	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 01:03	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:03	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 01:03	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 01:03	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 01:03	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 01:03	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 01:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 01:03	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 01:03	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 01:03	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:03	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 01:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 01:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:03	79-34-5	
Tetrachloroethene	1.1	ug/L	0.50	0.17	1		12/07/18 01:03	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 01:03	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 01:03	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 01:03	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 01:03	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 01:03	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 01:03	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 01:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 01:03	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 01:03	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 01:03	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 01:03	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 01:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 01:03	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/07/18 01:03	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 01:03	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	38.5	mg/L	1.2	0.28	1		12/05/18 10:01	16887-00-6	
Sulfate	38.2	mg/L	1.2	0.19	1		12/05/18 10:01	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	6.6	mg/L	0.50	0.088	5		12/13/18 15:28		FS

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Mclhattan Seep **Lab ID: 10457409023** Collected: 11/27/18 11:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.80	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:07	7440-38-2	
Barium, Dissolved	58.8	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 07:07	7440-39-3	
Cadmium, Dissolved	0.031J	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 07:07	7440-43-9	
Chromium, Dissolved	3.0	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 07:07	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 07:07	7440-48-4	
Copper, Dissolved	2.0	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 07:07	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 07:07	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 07:07	7439-92-1	
Manganese, Dissolved	0.26J	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 07:07	7439-96-5	
Nickel, Dissolved	0.75	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:07	7440-02-0	
Selenium, Dissolved	1.9	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 07:07	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 07:07	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 07:07	7440-28-0	
Vanadium, Dissolved	3.8	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 07:07	7440-62-2	
Zinc, Dissolved	<1.9	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 07:07	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 01:27	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 01:27	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:27	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 01:27	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:27	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 01:27	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 01:27	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 01:27	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 01:27	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 01:27	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:27	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 01:27	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 01:27	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:27	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 01:27	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 01:27	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 01:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 01:27	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 01:27	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:27	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:27	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 01:27	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 01:27	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:27	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:27	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 01:27	75-35-4	
cis-1,2-Dichloroethene	0.32J	ug/L	0.50	0.15	1		12/07/18 01:27	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 01:27	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:27	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Mcllhatten Seep **Lab ID: 10457409023** Collected: 11/27/18 11:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 01:27	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 01:27	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 01:27	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:27	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 01:27	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 01:27	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 01:27	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 01:27	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 01:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 01:27	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 01:27	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 01:27	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:27	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 01:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 01:27	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:27	79-34-5	
Tetrachloroethene	0.83	ug/L	0.50	0.17	1		12/07/18 01:27	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 01:27	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 01:27	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 01:27	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 01:27	79-00-5	
Trichloroethene	0.25J	ug/L	0.40	0.15	1		12/07/18 01:27	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 01:27	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 01:27	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 01:27	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 01:27	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 01:27	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 01:27	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 01:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/07/18 01:27	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/07/18 01:27	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 01:27	460-00-4	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	5.8	mg/L	0.50	0.088	5		12/13/18 15:31		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Valley View Vet Well **Lab ID: 10457409024** Collected: 11/27/18 10:20 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.67	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:00	7440-38-2	
Barium, Dissolved	0.12J	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 22:00	7440-39-3	B
Cadmium, Dissolved	<0.027	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 22:00	7440-43-9	
Chromium, Dissolved	1.0	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 22:00	7440-47-3	B
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 22:00	7440-48-4	
Copper, Dissolved	5.6	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 22:00	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 22:00	7439-89-6	
Lead, Dissolved	0.084J	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 22:00	7439-92-1	
Manganese, Dissolved	<0.24	ug/L	0.50	0.24	1	12/10/18 15:23	12/12/18 22:00	7439-96-5	
Nickel, Dissolved	<0.11	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:00	7440-02-0	
Selenium, Dissolved	0.90	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 22:00	7782-49-2	
Silver, Dissolved	0.22J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 22:00	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 22:00	7440-28-0	
Vanadium, Dissolved	4.4	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 22:00	7440-62-2	
Zinc, Dissolved	5.1	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 22:00	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 01:51	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 01:51	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:51	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 01:51	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:51	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 01:51	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 01:51	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 01:51	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 01:51	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 01:51	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:51	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 01:51	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 01:51	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:51	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 01:51	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 01:51	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 01:51	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 01:51	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 01:51	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:51	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:51	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 01:51	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 01:51	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:51	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 01:51	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 01:51	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 01:51	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 01:51	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 01:51	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Valley View Vet Well **Lab ID: 10457409024** Collected: 11/27/18 10:20 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 01:51	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 01:51	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 01:51	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 01:51	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 01:51	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 01:51	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 01:51	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 01:51	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 01:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 01:51	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 01:51	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 01:51	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 01:51	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 01:51	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 01:51	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 01:51	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/07/18 01:51	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 01:51	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 01:51	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 01:51	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 01:51	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 01:51	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 01:51	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 01:51	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 01:51	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 01:51	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 01:51	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 01:51	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 01:51	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/07/18 01:51	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/07/18 01:51	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/07/18 01:51	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 1 **Lab ID: 10457409025** Collected: 11/27/18 16:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved									
Analytical Method: EPA 6020 Preparation Method: EPA 3020									
Arsenic, Dissolved	0.37J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:11	7440-38-2	
Barium, Dissolved	92.9	ug/L	0.30	0.10	1	12/13/18 16:34	12/15/18 07:11	7440-39-3	
Cadmium, Dissolved	0.043J	ug/L	0.080	0.027	1	12/13/18 16:34	12/15/18 07:11	7440-43-9	
Chromium, Dissolved	6.0	ug/L	0.50	0.16	1	12/13/18 16:34	12/15/18 07:11	7440-47-3	
Cobalt, Dissolved	<0.085	ug/L	0.50	0.085	1	12/13/18 16:34	12/15/18 07:11	7440-48-4	
Copper, Dissolved	1.3	ug/L	1.0	0.22	1	12/13/18 16:34	12/15/18 07:11	7440-50-8	
Iron, Dissolved	<5.4	ug/L	50.0	5.4	1	12/13/18 16:34	12/15/18 07:11	7439-89-6	
Lead, Dissolved	<0.039	ug/L	0.10	0.039	1	12/13/18 16:34	12/15/18 07:11	7439-92-1	
Manganese, Dissolved	0.26J	ug/L	0.50	0.24	1	12/13/18 16:34	12/15/18 07:11	7439-96-5	
Nickel, Dissolved	0.31J	ug/L	0.50	0.11	1	12/13/18 16:34	12/15/18 07:11	7440-02-0	
Selenium, Dissolved	3.2	ug/L	0.50	0.14	1	12/13/18 16:34	12/15/18 07:11	7782-49-2	
Silver, Dissolved	<0.15	ug/L	0.50	0.15	1	12/13/18 16:34	12/15/18 07:11	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/13/18 16:34	12/15/18 07:11	7440-28-0	
Vanadium, Dissolved	1.0	ug/L	1.0	0.27	1	12/13/18 16:34	12/15/18 07:11	7440-62-2	
Zinc, Dissolved	3.6J	ug/L	5.0	1.9	1	12/13/18 16:34	12/15/18 07:11	7440-66-6	
8260B MSV Low Level									
Analytical Method: EPA 8260B									
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 02:15	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 02:15	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 02:15	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 02:15	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 02:15	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 02:15	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 02:15	74-83-9	CL
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 02:15	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 02:15	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 02:15	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 02:15	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 02:15	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 02:15	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 02:15	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 02:15	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 02:15	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 02:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 02:15	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 02:15	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 02:15	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 02:15	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 02:15	110-57-6	
Dichlorodifluoromethane	0.32J	ug/L	1.0	0.23	1		12/07/18 02:15	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 02:15	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 02:15	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 02:15	75-35-4	
cis-1,2-Dichloroethene	0.24J	ug/L	0.50	0.15	1		12/07/18 02:15	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 02:15	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 02:15	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 1 **Lab ID: 10457409025** Collected: 11/27/18 16:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/07/18 02:15	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 02:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 02:15	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 02:15	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 02:15	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 02:15	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 02:15	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 02:15	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 02:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 02:15	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 02:15	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/07/18 02:15	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 02:15	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 02:15	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 02:15	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 02:15	79-34-5	
Tetrachloroethene	6.5	ug/L	0.50	0.17	1		12/07/18 02:15	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 02:15	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 02:15	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 02:15	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 02:15	79-00-5	
Trichloroethene	0.31J	ug/L	0.40	0.15	1		12/07/18 02:15	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 02:15	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 02:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 02:15	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 02:15	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 02:15	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 02:15	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 02:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 02:15	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/07/18 02:15	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/07/18 02:15	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	50.4	mg/L	1.2	0.28	1		12/05/18 10:17	16887-00-6	
Sulfate	60.4	mg/L	1.2	0.19	1		12/05/18 10:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 2 **Lab ID: 10457409026** Collected: 11/28/18 14:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	1.5	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:11	7440-38-2	
Barium, Dissolved	166	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 22:11	7440-39-3	
Cadmium, Dissolved	0.061J	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 22:11	7440-43-9	
Chromium, Dissolved	<0.16	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 22:11	7440-47-3	
Cobalt, Dissolved	5.4	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 22:11	7440-48-4	
Copper, Dissolved	0.78J	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 22:11	7440-50-8	
Iron, Dissolved	3980	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 22:11	7439-89-6	
Lead, Dissolved	0.063J	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 22:11	7439-92-1	
Manganese, Dissolved	6690	ug/L	10.0	4.7	20	12/10/18 15:23	12/12/18 22:14	7439-96-5	
Nickel, Dissolved	5.6	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:11	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 22:11	7782-49-2	
Silver, Dissolved	0.19J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 22:11	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 22:11	7440-28-0	
Vanadium, Dissolved	<0.27	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 22:11	7440-62-2	
Zinc, Dissolved	2.4J	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 22:11	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/08/18 01:37	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/08/18 01:37	107-13-1	
Benzene	0.54	ug/L	0.50	0.10	1		12/08/18 01:37	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/08/18 01:37	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/08/18 01:37	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/08/18 01:37	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/08/18 01:37	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/08/18 01:37	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/08/18 01:37	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/08/18 01:37	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 01:37	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/08/18 01:37	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/08/18 01:37	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/08/18 01:37	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/08/18 01:37	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/08/18 01:37	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/08/18 01:37	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/08/18 01:37	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/08/18 01:37	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 01:37	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/08/18 01:37	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/08/18 01:37	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/08/18 01:37	75-71-8	
1,1-Dichloroethane	0.88	ug/L	0.50	0.17	1		12/08/18 01:37	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/08/18 01:37	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/08/18 01:37	75-35-4	
cis-1,2-Dichloroethene	5.2	ug/L	0.50	0.15	1		12/08/18 01:37	156-59-2	
trans-1,2-Dichloroethene	0.15J	ug/L	0.50	0.12	1		12/08/18 01:37	156-60-5	
1,2-Dichloropropane	0.28J	ug/L	4.0	0.16	1		12/08/18 01:37	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 2 **Lab ID: 10457409026** Collected: 11/28/18 14:00 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/08/18 01:37	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/08/18 01:37	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/08/18 01:37	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/08/18 01:37	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/08/18 01:37	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/08/18 01:37	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/08/18 01:37	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/08/18 01:37	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/08/18 01:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/08/18 01:37	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/08/18 01:37	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/08/18 01:37	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/08/18 01:37	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/08/18 01:37	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/08/18 01:37	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/08/18 01:37	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/08/18 01:37	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/08/18 01:37	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/08/18 01:37	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/08/18 01:37	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/08/18 01:37	79-00-5	
Trichloroethene	0.28J	ug/L	0.40	0.15	1		12/08/18 01:37	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/08/18 01:37	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/08/18 01:37	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/08/18 01:37	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/08/18 01:37	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/08/18 01:37	108-05-4	
Vinyl chloride	9.9	ug/L	0.20	0.092	1		12/08/18 01:37	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/08/18 01:37	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/08/18 01:37	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/08/18 01:37	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/08/18 01:37	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	32.1	mg/L	1.2	0.28	1		12/05/18 16:09	16887-00-6	
Sulfate	30.2	mg/L	1.2	0.19	1		12/05/18 16:09	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.020J	mg/L	0.10	0.018	1		12/13/18 15:00		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 3 **Lab ID: 10457409027** Collected: 11/29/18 11:30 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved		Analytical Method: EPA 6020 Preparation Method: EPA 3020							
Arsenic, Dissolved	0.55	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:17	7440-38-2	
Barium, Dissolved	115	ug/L	0.30	0.10	1	12/10/18 15:23	12/12/18 22:17	7440-39-3	
Cadmium, Dissolved	0.33	ug/L	0.080	0.027	1	12/10/18 15:23	12/12/18 22:17	7440-43-9	
Chromium, Dissolved	0.23J	ug/L	0.50	0.16	1	12/10/18 15:23	12/12/18 22:17	7440-47-3	B
Cobalt, Dissolved	0.55	ug/L	0.50	0.085	1	12/10/18 15:23	12/12/18 22:17	7440-48-4	
Copper, Dissolved	1.5	ug/L	1.0	0.22	1	12/10/18 15:23	12/12/18 22:17	7440-50-8	
Iron, Dissolved	36.1J	ug/L	50.0	5.4	1	12/10/18 15:23	12/12/18 22:17	7439-89-6	
Lead, Dissolved	0.048J	ug/L	0.10	0.039	1	12/10/18 15:23	12/12/18 22:17	7439-92-1	
Manganese, Dissolved	1890	ug/L	10.0	4.7	20	12/10/18 15:23	12/12/18 22:19	7439-96-5	
Nickel, Dissolved	5.2	ug/L	0.50	0.11	1	12/10/18 15:23	12/12/18 22:17	7440-02-0	
Selenium, Dissolved	<0.14	ug/L	0.50	0.14	1	12/10/18 15:23	12/12/18 22:17	7782-49-2	
Silver, Dissolved	0.20J	ug/L	0.50	0.15	1	12/10/18 15:23	12/12/18 22:17	7440-22-4	
Thallium, Dissolved	<0.026	ug/L	0.10	0.026	1	12/10/18 15:23	12/12/18 22:17	7440-28-0	
Vanadium, Dissolved	2.7	ug/L	1.0	0.27	1	12/10/18 15:23	12/12/18 22:17	7440-62-2	
Zinc, Dissolved	2.2J	ug/L	5.0	1.9	1	12/10/18 15:23	12/12/18 22:17	7440-66-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/10/18 23:14	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/10/18 23:14	107-13-1	
Benzene	0.65	ug/L	0.50	0.10	1		12/10/18 23:14	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/10/18 23:14	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/10/18 23:14	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/10/18 23:14	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/10/18 23:14	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/10/18 23:14	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/10/18 23:14	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/10/18 23:14	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 23:14	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/10/18 23:14	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/10/18 23:14	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/10/18 23:14	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/10/18 23:14	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/10/18 23:14	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/10/18 23:14	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/10/18 23:14	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/10/18 23:14	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 23:14	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/18 23:14	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/10/18 23:14	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/10/18 23:14	75-71-8	
1,1-Dichloroethane	0.72	ug/L	0.50	0.17	1		12/10/18 23:14	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/10/18 23:14	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/10/18 23:14	75-35-4	
cis-1,2-Dichloroethene	0.72	ug/L	0.50	0.15	1		12/10/18 23:14	156-59-2	
trans-1,2-Dichloroethene	0.12J	ug/L	0.50	0.12	1		12/10/18 23:14	156-60-5	
1,2-Dichloropropane	0.30J	ug/L	4.0	0.16	1		12/10/18 23:14	78-87-5	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: DUP 3 **Lab ID: 10457409027** Collected: 11/29/18 11:30 Received: 12/04/18 10:10 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	<0.20	ug/L	0.50	0.20	1		12/10/18 23:14	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/10/18 23:14	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/10/18 23:14	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/10/18 23:14	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/10/18 23:14	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/10/18 23:14	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/10/18 23:14	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/10/18 23:14	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/10/18 23:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/10/18 23:14	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/10/18 23:14	1634-04-4	
2-Propanol	<11.4	ug/L	100	11.4	1		12/10/18 23:14	67-63-0	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/10/18 23:14	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/10/18 23:14	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/10/18 23:14	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/10/18 23:14	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/10/18 23:14	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/10/18 23:14	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/10/18 23:14	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/10/18 23:14	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/10/18 23:14	79-00-5	
Trichloroethene	0.31J	ug/L	0.40	0.15	1		12/10/18 23:14	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/10/18 23:14	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/10/18 23:14	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/10/18 23:14	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/10/18 23:14	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/10/18 23:14	108-05-4	
Vinyl chloride	8.8	ug/L	0.20	0.092	1		12/10/18 23:14	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/10/18 23:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		12/10/18 23:14	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/10/18 23:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/10/18 23:14	460-00-4	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	52.9	mg/L	1.2	0.28	1		12/05/18 16:49	16887-00-6	
Sulfate	28.2	mg/L	1.2	0.19	1		12/05/18 16:49	14808-79-8	
353.2 Nitrate + Nitrite		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.023J	mg/L	0.10	0.018	1		12/13/18 15:01		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Trip Blank 1 Lab ID: 10457409028 Collected: 11/27/18 00:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 11:39	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 11:39	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 11:39	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 11:39	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 11:39	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 11:39	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 11:39	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 11:39	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 11:39	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 11:39	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:39	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 11:39	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 11:39	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 11:39	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 11:39	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 11:39	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 11:39	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 11:39	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 11:39	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 11:39	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:39	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 11:39	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 11:39	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 11:39	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 11:39	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 11:39	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 11:39	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 11:39	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 11:39	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 11:39	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 11:39	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 11:39	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 11:39	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 11:39	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 11:39	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 11:39	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 11:39	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 11:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 11:39	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 11:39	1634-04-4	
2-Propanol	49.9J	ug/L	100	11.4	1		12/07/18 11:39	67-63-0	B
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 11:39	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 11:39	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 11:39	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 11:39	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:39	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Trip Blank 1 **Lab ID: 10457409028** Collected: 11/27/18 00:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 11:39	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 11:39	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 11:39	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 11:39	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 11:39	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 11:39	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 11:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 11:39	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 11:39	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 11:39	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 11:39	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 11:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 11:39	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/07/18 11:39	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/07/18 11:39	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Trip Blank 2 Lab ID: 10457409029 Collected: 11/27/18 00:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Acetone	<9.2	ug/L	20.0	9.2	1		12/07/18 11:15	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		12/07/18 11:15	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		12/07/18 11:15	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		12/07/18 11:15	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		12/07/18 11:15	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		12/07/18 11:15	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		12/07/18 11:15	74-83-9	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		12/07/18 11:15	78-93-3	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		12/07/18 11:15	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		12/07/18 11:15	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:15	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		12/07/18 11:15	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		12/07/18 11:15	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		12/07/18 11:15	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		12/07/18 11:15	110-82-7	N2
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		12/07/18 11:15	96-12-8	
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		12/07/18 11:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		12/07/18 11:15	106-93-4	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		12/07/18 11:15	74-95-3	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 11:15	95-50-1	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:15	106-46-7	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		12/07/18 11:15	110-57-6	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		12/07/18 11:15	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 11:15	75-34-3	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		12/07/18 11:15	107-06-2	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		12/07/18 11:15	75-35-4	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/07/18 11:15	156-59-2	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/07/18 11:15	156-60-5	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		12/07/18 11:15	78-87-5	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		12/07/18 11:15	10061-01-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		12/07/18 11:15	10061-02-6	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		12/07/18 11:15	123-91-1	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		12/07/18 11:15	100-41-4	
n-Hexane	<0.93	ug/L	10.0	0.93	1		12/07/18 11:15	110-54-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		12/07/18 11:15	591-78-6	
Iodomethane	<0.82	ug/L	4.0	0.82	1		12/07/18 11:15	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		12/07/18 11:15	98-82-8	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		12/07/18 11:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		12/07/18 11:15	108-10-1	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		12/07/18 11:15	1634-04-4	
2-Propanol	63.1J	ug/L	100	11.4	1		12/07/18 11:15	67-63-0	B
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		12/07/18 11:15	103-65-1	
Styrene	<0.19	ug/L	0.50	0.19	1		12/07/18 11:15	100-42-5	
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		12/07/18 11:15	630-20-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		12/07/18 11:15	79-34-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		12/07/18 11:15	127-18-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Sample: Trip Blank 2 **Lab ID: 10457409029** Collected: 11/27/18 00:00 Received: 12/04/18 10:10 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		12/07/18 11:15	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		12/07/18 11:15	108-88-3	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		12/07/18 11:15	71-55-6	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		12/07/18 11:15	79-00-5	
Trichloroethene	<0.15	ug/L	0.40	0.15	1		12/07/18 11:15	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		12/07/18 11:15	75-69-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		12/07/18 11:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		12/07/18 11:15	76-13-1	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		12/07/18 11:15	95-63-6	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		12/07/18 11:15	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		12/07/18 11:15	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		12/07/18 11:15	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/07/18 11:15	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/07/18 11:15	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		12/07/18 11:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 579208 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10457409004, 10457409005, 10457409011, 10457409012, 10457409013, 10457409015, 10457409024, 10457409026, 10457409027

METHOD BLANK: 3141886 Matrix: Water
Associated Lab Samples: 10457409004, 10457409005, 10457409011, 10457409012, 10457409013, 10457409015, 10457409024, 10457409026, 10457409027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.11	0.50	0.11	12/12/18 19:59	
Barium, Dissolved	ug/L	0.19J	0.30	0.10	12/12/18 19:59	
Cadmium, Dissolved	ug/L	<0.027	0.080	0.027	12/12/18 19:59	
Chromium, Dissolved	ug/L	0.35J	0.50	0.16	12/12/18 19:59	
Cobalt, Dissolved	ug/L	<0.085	0.50	0.085	12/12/18 19:59	
Copper, Dissolved	ug/L	<0.22	1.0	0.22	12/12/18 19:59	
Iron, Dissolved	ug/L	<5.4	50.0	5.4	12/12/18 19:59	
Lead, Dissolved	ug/L	<0.039	0.10	0.039	12/12/18 19:59	
Manganese, Dissolved	ug/L	0.86	0.50	0.24	12/12/18 19:59	P8
Nickel, Dissolved	ug/L	<0.11	0.50	0.11	12/12/18 19:59	
Selenium, Dissolved	ug/L	<0.14	0.50	0.14	12/12/18 19:59	
Silver, Dissolved	ug/L	<0.15	0.50	0.15	12/12/18 19:59	
Thallium, Dissolved	ug/L	<0.026	0.10	0.026	12/12/18 19:59	
Vanadium, Dissolved	ug/L	<0.27	1.0	0.27	12/12/18 19:59	
Zinc, Dissolved	ug/L	<1.9	5.0	1.9	12/12/18 19:59	

LABORATORY CONTROL SAMPLE: 3141887

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	98.1	98	80-120	
Barium, Dissolved	ug/L	100	105	105	80-120	
Cadmium, Dissolved	ug/L	100	104	104	80-120	
Chromium, Dissolved	ug/L	100	105	105	80-120	
Cobalt, Dissolved	ug/L	100	105	105	80-120	
Copper, Dissolved	ug/L	100	107	107	80-120	
Iron, Dissolved	ug/L	2000	2060	103	80-120	
Lead, Dissolved	ug/L	100	107	107	80-120	
Manganese, Dissolved	ug/L	100	104	104	80-120	
Nickel, Dissolved	ug/L	100	101	101	80-120	
Selenium, Dissolved	ug/L	100	102	102	80-120	
Silver, Dissolved	ug/L	50	54.1	108	80-120	
Thallium, Dissolved	ug/L	100	103	103	80-120	
Vanadium, Dissolved	ug/L	100	106	106	80-120	
Zinc, Dissolved	ug/L	100	103	103	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	3141888		3141889		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10458784001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Arsenic, Dissolved	ug/L	0.51	100	100	99.7	101	99	101	75-125	1	20		
Barium, Dissolved	ug/L	49.5	100	100	153	156	103	107	75-125	2	20		
Cadmium, Dissolved	ug/L	<0.080	100	100	101	102	101	102	75-125	2	20		
Chromium, Dissolved	ug/L	4.8	100	100	110	112	105	108	75-125	2	20		
Cobalt, Dissolved	ug/L	<0.50	100	100	102	102	102	102	75-125	0	20		
Copper, Dissolved	ug/L	<1.0	100	100	98.7	98.8	98	98	75-125	0	20		
Iron, Dissolved	ug/L	<50.0	2000	2000	2070	2050	103	102	75-125	1	20		
Lead, Dissolved	ug/L	<0.10	100	100	103	105	103	105	75-125	1	20		
Manganese, Dissolved	ug/L	2.6	100	100	104	105	101	102	75-125	1	20		
Nickel, Dissolved	ug/L	0.56	100	100	96.3	96.9	96	96	75-125	1	20		
Selenium, Dissolved	ug/L	1.0	100	100	99.9	102	99	101	75-125	2	20		
Silver, Dissolved	ug/L	<0.50	50	50	51.5	52.8	103	106	75-125	3	20		
Thallium, Dissolved	ug/L	<0.10	100	100	98.8	102	99	102	75-125	3	20		
Vanadium, Dissolved	ug/L	2.6	100	100	109	111	107	109	75-125	2	20		
Zinc, Dissolved	ug/L	<5.0	100	100	99.0	101	98	100	75-125	2	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

QC Batch: 580844 Analysis Method: EPA 6020
 QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
 Associated Lab Samples: 10457409002, 10457409003, 10457409007, 10457409008, 10457409014, 10457409017, 10457409022, 10457409023, 10457409025

METHOD BLANK: 3149833 Matrix: Water
 Associated Lab Samples: 10457409002, 10457409003, 10457409007, 10457409008, 10457409014, 10457409017, 10457409022, 10457409023, 10457409025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	<0.11	0.50	0.11	12/15/18 05:54	
Barium, Dissolved	ug/L	0.25J	0.30	0.10	12/15/18 05:54	
Cadmium, Dissolved	ug/L	<0.027	0.080	0.027	12/15/18 05:54	
Chromium, Dissolved	ug/L	<0.16	0.50	0.16	12/15/18 05:54	
Cobalt, Dissolved	ug/L	<0.085	0.50	0.085	12/15/18 05:54	
Copper, Dissolved	ug/L	<0.22	1.0	0.22	12/15/18 05:54	
Iron, Dissolved	ug/L	<5.4	50.0	5.4	12/15/18 05:54	
Lead, Dissolved	ug/L	<0.039	0.10	0.039	12/15/18 05:54	
Manganese, Dissolved	ug/L	<0.24	0.50	0.24	12/15/18 05:54	
Nickel, Dissolved	ug/L	<0.11	0.50	0.11	12/15/18 05:54	
Selenium, Dissolved	ug/L	<0.14	0.50	0.14	12/15/18 05:54	
Silver, Dissolved	ug/L	<0.15	0.50	0.15	12/15/18 05:54	
Thallium, Dissolved	ug/L	0.060J	0.10	0.026	12/15/18 05:54	
Vanadium, Dissolved	ug/L	<0.27	1.0	0.27	12/15/18 05:54	
Zinc, Dissolved	ug/L	<1.9	5.0	1.9	12/15/18 05:54	

LABORATORY CONTROL SAMPLE: 3149834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	91.0	91	80-120	
Barium, Dissolved	ug/L	100	89.9	90	80-120	
Cadmium, Dissolved	ug/L	100	91.6	92	80-120	
Chromium, Dissolved	ug/L	100	91.7	92	80-120	
Cobalt, Dissolved	ug/L	100	93.7	94	80-120	
Copper, Dissolved	ug/L	100	92.6	93	80-120	
Iron, Dissolved	ug/L	2000	1880	94	80-120	
Lead, Dissolved	ug/L	100	94.0	94	80-120	
Manganese, Dissolved	ug/L	100	91.4	91	80-120	
Nickel, Dissolved	ug/L	100	92.9	93	80-120	
Selenium, Dissolved	ug/L	100	93.4	93	80-120	
Silver, Dissolved	ug/L	50	46.2	92	80-120	
Thallium, Dissolved	ug/L	100	89.1	89	80-120	
Vanadium, Dissolved	ug/L	100	92.0	92	80-120	
Zinc, Dissolved	ug/L	100	93.5	94	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	3149835		3149836		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10457409003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Arsenic, Dissolved	ug/L	0.54	100	100	100	103	100	100	103	75-125	3	20	
Barium, Dissolved	ug/L	75.9	100	100	174	179	98	103	103	75-125	3	20	
Cadmium, Dissolved	ug/L	<0.027	100	100	97.3	99.5	97	99	99	75-125	2	20	
Chromium, Dissolved	ug/L	1.4	100	100	100	102	99	101	101	75-125	2	20	
Cobalt, Dissolved	ug/L	<0.085	100	100	103	106	103	106	106	75-125	3	20	
Copper, Dissolved	ug/L	0.77J	100	100	97.8	101	97	100	100	75-125	3	20	
Iron, Dissolved	ug/L	<5.4	2000	2000	2000	2050	100	102	102	75-125	3	20	
Lead, Dissolved	ug/L	<0.039	100	100	97.8	101	98	101	101	75-125	3	20	
Manganese, Dissolved	ug/L	6.2	100	100	97.0	100	91	94	94	75-125	3	20	
Nickel, Dissolved	ug/L	0.41J	100	100	99.6	102	99	101	101	75-125	2	20	
Selenium, Dissolved	ug/L	0.30J	100	100	99.8	103	99	103	103	75-125	3	20	
Silver, Dissolved	ug/L	<0.15	50	50	47.8	49.2	96	98	98	75-125	3	20	
Thallium, Dissolved	ug/L	0.051J	100	100	94.0	97.2	94	97	97	75-125	3	20	
Vanadium, Dissolved	ug/L	3.0	100	100	103	106	100	103	103	75-125	2	20	
Zinc, Dissolved	ug/L	<1.9	100	100	96.8	99.6	96	99	99	75-125	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 579447 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10457409001, 10457409002, 10457409003, 10457409004, 10457409005, 10457409006, 10457409007, 10457409009, 10457409010, 10457409016, 10457409017, 10457409018, 10457409019, 10457409020, 10457409021, 10457409022, 10457409023, 10457409024, 10457409025

METHOD BLANK: 3142929 Matrix: Water
Associated Lab Samples: 10457409001, 10457409002, 10457409003, 10457409004, 10457409005, 10457409006, 10457409007, 10457409009, 10457409010, 10457409016, 10457409017, 10457409018, 10457409019, 10457409020, 10457409021, 10457409022, 10457409023, 10457409024, 10457409025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	12/06/18 20:40	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	12/06/18 20:40	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	12/06/18 20:40	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	12/06/18 20:40	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	12/06/18 20:40	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	12/06/18 20:40	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	12/06/18 20:40	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	12/06/18 20:40	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	12/06/18 20:40	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	12/06/18 20:40	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	12/06/18 20:40	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	12/06/18 20:40	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	12/06/18 20:40	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	12/06/18 20:40	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	12/06/18 20:40	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	12/06/18 20:40	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	12/06/18 20:40	
2-Hexanone	ug/L	<0.88	5.0	0.88	12/06/18 20:40	
2-Propanol	ug/L	<11.4	100	11.4	12/06/18 20:40	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	12/06/18 20:40	
Acetone	ug/L	<9.2	20.0	9.2	12/06/18 20:40	
Acrylonitrile	ug/L	<0.91	10.0	0.91	12/06/18 20:40	
Benzene	ug/L	<0.10	0.50	0.10	12/06/18 20:40	
Bromochloromethane	ug/L	<0.27	1.0	0.27	12/06/18 20:40	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	12/06/18 20:40	
Bromoform	ug/L	<0.80	4.0	0.80	12/06/18 20:40	
Bromomethane	ug/L	<1.8	4.0	1.8	12/06/18 20:40	CL
Carbon disulfide	ug/L	<0.078	1.0	0.078	12/06/18 20:40	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	12/06/18 20:40	
Chlorobenzene	ug/L	<0.17	0.50	0.17	12/06/18 20:40	
Chloroethane	ug/L	<0.49	1.0	0.49	12/06/18 20:40	
Chloroform	ug/L	<0.45	1.0	0.45	12/06/18 20:40	
Chloromethane	ug/L	<0.16	4.0	0.16	12/06/18 20:40	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/06/18 20:40	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	12/06/18 20:40	
Cyclohexane	ug/L	<0.54	5.0	0.54	12/06/18 20:40	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	12/06/18 20:40	
Dibromomethane	ug/L	<0.16	1.0	0.16	12/06/18 20:40	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

METHOD BLANK: 3142929

Matrix: Water

Associated Lab Samples: 10457409001, 10457409002, 10457409003, 10457409004, 10457409005, 10457409006, 10457409007, 10457409009, 10457409010, 10457409016, 10457409017, 10457409018, 10457409019, 10457409020, 10457409021, 10457409022, 10457409023, 10457409024, 10457409025

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	12/06/18 20:40	
Ethylbenzene	ug/L	<0.14	0.50	0.14	12/06/18 20:40	
Iodomethane	ug/L	<0.82	4.0	0.82	12/06/18 20:40	
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	12/06/18 20:40	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	12/06/18 20:40	
Methylene Chloride	ug/L	<0.98	4.0	0.98	12/06/18 20:40	
n-Hexane	ug/L	<0.93	10.0	0.93	12/06/18 20:40	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	12/06/18 20:40	
Styrene	ug/L	<0.19	0.50	0.19	12/06/18 20:40	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	12/06/18 20:40	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	12/06/18 20:40	
Toluene	ug/L	<0.083	0.50	0.083	12/06/18 20:40	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/06/18 20:40	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	12/06/18 20:40	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	12/06/18 20:40	
Trichloroethene	ug/L	<0.15	0.40	0.15	12/06/18 20:40	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	12/06/18 20:40	
Vinyl acetate	ug/L	<1.1	10.0	1.1	12/06/18 20:40	
Vinyl chloride	ug/L	<0.092	0.20	0.092	12/06/18 20:40	
Xylene (Total)	ug/L	<0.31	1.5	0.31	12/06/18 20:40	
1,2-Dichloroethane-d4 (S)	%	93	75-125		12/06/18 20:40	
4-Bromofluorobenzene (S)	%	104	75-125		12/06/18 20:40	
Toluene-d8 (S)	%	97	75-125		12/06/18 20:40	

LABORATORY CONTROL SAMPLE: 3142930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	98	75-125	
1,1,1-Trichloroethane	ug/L	20	19.5	98	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	97	75-125	
1,1,2-Trichloroethane	ug/L	20	18.9	95	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.3	96	72-125	
1,1-Dichloroethane	ug/L	20	17.8	89	75-125	
1,1-Dichloroethene	ug/L	20	18.0	90	73-125	
1,2,3-Trichloropropane	ug/L	20	19.2	96	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.6	98	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	48.5	97	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.1	100	75-125	
1,2-Dichlorobenzene	ug/L	20	18.5	93	75-125	
1,2-Dichloroethane	ug/L	20	16.4	82	75-125	
1,2-Dichloropropane	ug/L	20	18.0	90	75-125	
1,4-Dichlorobenzene	ug/L	20	17.8	89	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

LABORATORY CONTROL SAMPLE: 3142930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	400	379	95	75-125	
2-Butanone (MEK)	ug/L	100	86.7	87	65-126	
2-Hexanone	ug/L	100	95.8	96	75-134	
2-Propanol	ug/L	200	195	98	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.1	91	75-131	
Acetone	ug/L	100	102	102	68-150	
Acrylonitrile	ug/L	202	178	88	75-125	
Benzene	ug/L	20	18.2	91	75-125	
Bromochloromethane	ug/L	20	18.0	90	75-125	
Bromodichloromethane	ug/L	20	18.0	90	75-125	
Bromoform	ug/L	20	18.4	92	70-125	
Bromomethane	ug/L	20	11.9	60	30-145	CL
Carbon disulfide	ug/L	20	17.8	89	67-125	
Carbon tetrachloride	ug/L	20	18.8	94	75-125	
Chlorobenzene	ug/L	20	19.0	95	75-125	
Chloroethane	ug/L	20	18.3	91	73-131	
Chloroform	ug/L	20	17.1	85	75-125	
Chloromethane	ug/L	20	17.2	86	52-132	
cis-1,2-Dichloroethene	ug/L	20	18.1	90	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.7	99	75-125	
Cyclohexane	ug/L	100	94.6	95	66-125	N2
Dibromochloromethane	ug/L	20	20.7	104	75-125	
Dibromomethane	ug/L	20	20.0	100	75-125	
Dichlorodifluoromethane	ug/L	20	21.7	109	64-127	
Ethylbenzene	ug/L	20	19.6	98	75-125	
Iodomethane	ug/L	20	17.1	85	72-127	
Isopropylbenzene (Cumene)	ug/L	20	20.2	101	75-125	
Methyl-tert-butyl ether	ug/L	20	18.6	93	75-125	
Methylene Chloride	ug/L	20	17.5	88	72-125	
n-Hexane	ug/L	50	61.9	124	49-138	
n-Propylbenzene	ug/L	20	20.8	104	75-125	
Styrene	ug/L	20	20.3	101	75-125	
Tetrachloroethene	ug/L	20	21.8	109	75-125	
Tetrahydrofuran	ug/L	200	209	105	64-150	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	97	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	31.3	62	57-126	
Trichloroethene	ug/L	20	19.9	99	75-125	
Trichlorofluoromethane	ug/L	20	19.8	99	74-126	
Vinyl acetate	ug/L	20	19.5	98	72-129	
Vinyl chloride	ug/L	20	19.8	99	71-130	
Xylene (Total)	ug/L	60	61.3	102	75-125	
1,2-Dichloroethane-d4 (S)	%			94	75-125	
4-Bromofluorobenzene (S)	%			104	75-125	
Toluene-d8 (S)	%			103	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		3145878			3145879							
Parameter	Units	10458222001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD		
1,1,1,2-Tetrachloroethane	ug/L	<0.50	20	20	19.9	19.6	99	98	75-125	2	30	
1,1,1-Trichloroethane	ug/L	<0.50	20	20	21.6	20.9	108	105	75-129	3	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.50	20	20	20.2	19.5	101	97	75-125	4	30	
1,1,2-Trichloroethane	ug/L	<0.50	20	20	19.4	18.9	97	95	75-125	3	30	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	20	20	21.6	21.3	108	107	75-136	1	30	
1,1-Dichloroethane	ug/L	<0.50	20	20	18.9	18.4	94	92	75-125	3	30	
1,1-Dichloroethene	ug/L	<0.50	20	20	20.7	19.8	103	99	75-127	4	30	
1,2,3-Trichloropropane	ug/L	<4.0	20	20	20.8	19.6	104	98	75-125	6	30	
1,2,4-Trimethylbenzene	ug/L	<0.50	20	20	21.0	20.0	105	100	71-125	5	30	
1,2-Dibromo-3-chloropropane	ug/L	<4.0	50	50	51.7	50.0	103	100	61-127	3	30	
1,2-Dibromoethane (EDB)	ug/L	<0.50	20	20	20.6	20.0	103	100	75-125	3	30	
1,2-Dichlorobenzene	ug/L	<0.50	20	20	19.2	18.6	96	93	75-125	3	30	
1,2-Dichloroethane	ug/L	<0.50	20	20	17.1	16.9	85	84	69-125	1	30	
1,2-Dichloropropane	ug/L	<4.0	20	20	19.0	18.3	95	91	75-125	4	30	
1,4-Dichlorobenzene	ug/L	<0.50	20	20	19.2	18.3	96	91	74-125	5	30	
1,4-Dioxane (p-Dioxane)	ug/L	<200	400	400	409	385	102	96	67-128	6	30	
2-Butanone (MEK)	ug/L	<5.0	100	100	94.3	92.1	94	92	59-125	2	30	
2-Hexanone	ug/L	<5.0	100	100	104	98.7	104	99	68-138	6	30	
2-Propanol	ug/L	<100	200	200	213	213	106	107	44-150	0	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	100	100	96.8	93.7	97	94	73-125	3	30	
Acetone	ug/L	<20.0	100	100	102	98.9	101	98	75-150	3	30	
Acrylonitrile	ug/L	<10.0	202	202	185	181	92	90	69-127	2	30	
Benzene	ug/L	<0.50	20	20	19.3	18.6	96	93	74-125	3	30	
Bromochloromethane	ug/L	<1.0	20	20	18.8	18.3	94	92	75-125	2	30	
Bromodichloromethane	ug/L	<0.50	20	20	19.1	18.2	95	91	75-125	5	30	
Bromoform	ug/L	<4.0	20	20	19.1	19.2	95	96	68-125	1	30	
Bromomethane	ug/L	<4.0	20	20	13.9	16.3	70	82	37-149	16	30 CL	
Carbon disulfide	ug/L	<1.0	20	20	20.2	19.3	101	97	66-139	4	30	
Carbon tetrachloride	ug/L	<0.50	20	20	21.1	20.4	106	102	75-127	3	30	
Chlorobenzene	ug/L	<0.50	20	20	20.1	18.9	100	95	75-125	6	30	
Chloroethane	ug/L	<1.0	20	20	20.4	20.5	102	102	73-134	1	30	
Chloroform	ug/L	<1.0	20	20	18.1	17.2	91	86	71-125	5	30	
Chloromethane	ug/L	<4.0	20	20	17.1	20.3	86	102	58-133	17	30	
cis-1,2-Dichloroethene	ug/L	<0.50	20	20	19.3	18.5	97	92	75-125	4	30	
cis-1,3-Dichloropropene	ug/L	<0.50	20	20	20.9	19.7	104	99	71-125	6	30	
Cyclohexane	ug/L	<5.0	100	100	106	103	106	103	73-148	3	30 N2	
Dibromochloromethane	ug/L	<0.50	20	20	21.2	21.3	106	107	75-125	1	30	
Dibromomethane	ug/L	<1.0	20	20	21.1	20.2	105	101	75-125	4	30	
Dichlorodifluoromethane	ug/L	<1.0	20	20	23.4	22.8	117	114	70-150	3	30	
Ethylbenzene	ug/L	<0.50	20	20	20.9	20.1	105	100	75-125	4	30	
Iodomethane	ug/L	<4.0	20	20	18.1	17.8	90	89	73-138	1	30	
Isopropylbenzene (Cumene)	ug/L	<1.0	20	20	21.6	20.8	108	104	75-125	4	30	
Methyl-tert-butyl ether	ug/L	<0.50	20	20	19.1	18.8	95	94	75-125	1	30	
Methylene Chloride	ug/L	<4.0	20	20	18.9	18.1	93	89	72-125	4	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3145878 3145879												
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		10458222001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
n-Hexane	ug/L	<10.0	50	50	65.3	61.8	131	124	37-150	5	30	
n-Propylbenzene	ug/L	<0.50	20	20	22.6	21.6	113	108	75-126	4	30	
Styrene	ug/L	<0.50	20	20	21.3	20.4	106	102	71-125	4	30	
Tetrachloroethene	ug/L	66.0	20	20	81.1	88.2	75	111	75-125	8	30	
Tetrahydrofuran	ug/L	<10.0	200	200	203	199	102	100	75-150	2	30	
Toluene	ug/L	<0.50	20	20	19.5	19.5	98	97	74-125	0	30	
trans-1,2-Dichloroethene	ug/L	<0.50	20	20	19.6	19.0	98	95	75-125	3	30	
trans-1,3-Dichloropropene	ug/L	<0.50	20	20	20.5	19.4	102	97	70-125	5	30	
trans-1,4-Dichloro-2-butene	ug/L	<10.0	50.4	50.4	33.1	33.8	66	67	57-125	2	30	
Trichloroethene	ug/L	<0.40	20	20	21.4	20.6	106	102	75-125	4	30	
Trichlorofluoromethane	ug/L	<0.50	20	20	21.7	21.3	109	107	75-135	2	30	
Vinyl acetate	ug/L	<10.0	20	20	20.0	19.8	100	99	57-136	1	30	
Vinyl chloride	ug/L	<0.20	20	20	21.9	21.7	110	109	74-141	1	30	
Xylene (Total)	ug/L	<1.5	60	60	63.7	61.0	106	102	75-125	4	30	
1,2-Dichloroethane-d4 (S)	%						94	96	75-125			
4-Bromofluorobenzene (S)	%						105	104	75-125			
Toluene-d8 (S)	%						96	96	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 579536 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10457409028, 10457409029

METHOD BLANK: 3143375 Matrix: Water
Associated Lab Samples: 10457409028, 10457409029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	12/07/18 10:27	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	12/07/18 10:27	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	12/07/18 10:27	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	12/07/18 10:27	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	12/07/18 10:27	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	12/07/18 10:27	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	12/07/18 10:27	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	12/07/18 10:27	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	12/07/18 10:27	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	12/07/18 10:27	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	12/07/18 10:27	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	12/07/18 10:27	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	12/07/18 10:27	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	12/07/18 10:27	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	12/07/18 10:27	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	12/07/18 10:27	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	12/07/18 10:27	
2-Hexanone	ug/L	<0.88	5.0	0.88	12/07/18 10:27	
2-Propanol	ug/L	18.6J	100	11.4	12/07/18 10:27	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	12/07/18 10:27	
Acetone	ug/L	<9.2	20.0	9.2	12/07/18 10:27	
Acrylonitrile	ug/L	<0.91	10.0	0.91	12/07/18 10:27	
Benzene	ug/L	<0.10	0.50	0.10	12/07/18 10:27	
Bromochloromethane	ug/L	<0.27	1.0	0.27	12/07/18 10:27	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	12/07/18 10:27	
Bromoform	ug/L	<0.80	4.0	0.80	12/07/18 10:27	
Bromomethane	ug/L	<1.8	4.0	1.8	12/07/18 10:27	
Carbon disulfide	ug/L	<0.078	1.0	0.078	12/07/18 10:27	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	12/07/18 10:27	
Chlorobenzene	ug/L	<0.17	0.50	0.17	12/07/18 10:27	
Chloroethane	ug/L	<0.49	1.0	0.49	12/07/18 10:27	
Chloroform	ug/L	<0.45	1.0	0.45	12/07/18 10:27	
Chloromethane	ug/L	<0.16	4.0	0.16	12/07/18 10:27	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/07/18 10:27	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	12/07/18 10:27	
Cyclohexane	ug/L	<0.54	5.0	0.54	12/07/18 10:27	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	12/07/18 10:27	
Dibromomethane	ug/L	<0.16	1.0	0.16	12/07/18 10:27	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	12/07/18 10:27	
Ethylbenzene	ug/L	<0.14	0.50	0.14	12/07/18 10:27	
Iodomethane	ug/L	<0.82	4.0	0.82	12/07/18 10:27	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

METHOD BLANK: 3143375 Matrix: Water
Associated Lab Samples: 10457409028, 10457409029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	12/07/18 10:27	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	12/07/18 10:27	
Methylene Chloride	ug/L	<0.98	4.0	0.98	12/07/18 10:27	
n-Hexane	ug/L	<0.93	10.0	0.93	12/07/18 10:27	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	12/07/18 10:27	
Styrene	ug/L	<0.19	0.50	0.19	12/07/18 10:27	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	12/07/18 10:27	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	12/07/18 10:27	
Toluene	ug/L	<0.083	0.50	0.083	12/07/18 10:27	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/07/18 10:27	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	12/07/18 10:27	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	12/07/18 10:27	
Trichloroethene	ug/L	<0.15	0.40	0.15	12/07/18 10:27	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	12/07/18 10:27	
Vinyl acetate	ug/L	<1.1	10.0	1.1	12/07/18 10:27	
Vinyl chloride	ug/L	<0.092	0.20	0.092	12/07/18 10:27	
Xylene (Total)	ug/L	<0.31	1.5	0.31	12/07/18 10:27	
1,2-Dichloroethane-d4 (S)	%	97	75-125		12/07/18 10:27	
4-Bromofluorobenzene (S)	%	105	75-125		12/07/18 10:27	
Toluene-d8 (S)	%	99	75-125		12/07/18 10:27	

LABORATORY CONTROL SAMPLE: 3143376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	98	75-125	
1,1,1-Trichloroethane	ug/L	20	19.9	99	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	75-125	
1,1,2-Trichloroethane	ug/L	20	19.8	99	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.7	98	72-125	
1,1-Dichloroethane	ug/L	20	18.9	95	75-125	
1,1-Dichloroethene	ug/L	20	19.8	99	73-125	
1,2,3-Trichloropropane	ug/L	20	19.9	100	75-125	
1,2,4-Trimethylbenzene	ug/L	20	20.5	103	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	48.9	98	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.8	104	75-125	
1,2-Dichlorobenzene	ug/L	20	19.0	95	75-125	
1,2-Dichloroethane	ug/L	20	17.7	88	75-125	
1,2-Dichloropropane	ug/L	20	18.9	94	75-125	
1,4-Dichlorobenzene	ug/L	20	18.7	94	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	414	103	75-125	
2-Butanone (MEK)	ug/L	100	94.2	94	65-126	
2-Hexanone	ug/L	100	96.9	97	75-134	
2-Propanol	ug/L	200	193	96	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.7	94	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

LABORATORY CONTROL SAMPLE: 3143376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	99.8	100	68-150	
Acrylonitrile	ug/L	202	192	95	75-125	
Benzene	ug/L	20	19.2	96	75-125	
Bromochloromethane	ug/L	20	18.8	94	75-125	
Bromodichloromethane	ug/L	20	18.8	94	75-125	
Bromoform	ug/L	20	18.1	90	70-125	
Bromomethane	ug/L	20	12.7	63	30-145	
Carbon disulfide	ug/L	20	20.6	103	67-125	
Carbon tetrachloride	ug/L	20	19.4	97	75-125	
Chlorobenzene	ug/L	20	19.1	96	75-125	
Chloroethane	ug/L	20	19.3	96	73-131	
Chloroform	ug/L	20	18.3	92	75-125	
Chloromethane	ug/L	20	19.8	99	52-132	
cis-1,2-Dichloroethene	ug/L	20	19.0	95	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.9	104	75-125	
Cyclohexane	ug/L	100	101	101	66-125	N2
Dibromochloromethane	ug/L	20	20.3	102	75-125	
Dibromomethane	ug/L	20	20.9	105	75-125	
Dichlorodifluoromethane	ug/L	20	22.1	110	64-127	
Ethylbenzene	ug/L	20	20.2	101	75-125	
Iodomethane	ug/L	20	18.8	94	72-127	
Isopropylbenzene (Cumene)	ug/L	20	20.4	102	75-125	
Methyl-tert-butyl ether	ug/L	20	18.5	93	75-125	
Methylene Chloride	ug/L	20	18.1	90	72-125	
n-Hexane	ug/L	50	62.8	126	49-138	
n-Propylbenzene	ug/L	20	21.5	107	75-125	
Styrene	ug/L	20	21.3	107	75-125	
Tetrachloroethene	ug/L	20	22.1	110	75-125	
Tetrahydrofuran	ug/L	200	207	103	64-150	
Toluene	ug/L	20	20.1	100	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.3	96	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.6	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	30.9	61	57-126	
Trichloroethene	ug/L	20	20.4	102	75-125	
Trichlorofluoromethane	ug/L	20	21.0	105	74-126	
Vinyl acetate	ug/L	20	21.7	109	72-129	
Vinyl chloride	ug/L	20	21.9	110	71-130	
Xylene (Total)	ug/L	60	61.5	103	75-125	
1,2-Dichloroethane-d4 (S)	%			96	75-125	
4-Bromofluorobenzene (S)	%			106	75-125	
Toluene-d8 (S)	%			102	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3143377 3143378												
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10457985001 Result	Spike Conc.	Spike Conc.	MS Conc.							
1,1,1,2-Tetrachloroethane	ug/L	ND	200	200	204	196	102	98	75-125	4	30	
1,1,1-Trichloroethane	ug/L	ND	200	200	208	199	104	100	75-129	4	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	200	200	211	204	105	102	75-125	3	30	
1,1,2-Trichloroethane	ug/L	ND	200	200	203	199	101	100	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	200	200	205	198	102	99	75-136	3	30	
1,1-Dichloroethane	ug/L	ND	200	200	193	188	97	94	75-125	3	30	
1,1-Dichloroethene	ug/L	ND	200	200	205	193	102	97	75-127	6	30	
1,2,3-Trichloropropane	ug/L	ND	200	200	218	209	109	104	75-125	4	30	
1,2,4-Trimethylbenzene	ug/L	20.0	200	200	234	220	107	100	71-125	6	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	500	500	540	534	108	107	61-127	1	30	
1,2-Dibromoethane (EDB)	ug/L	ND	200	200	221	213	111	107	75-125	4	30	
1,2-Dichlorobenzene	ug/L	ND	200	200	195	188	97	94	75-125	4	30	
1,2-Dichloroethane	ug/L	ND	200	200	181	177	91	88	69-125	2	30	
1,2-Dichloropropane	ug/L	ND	200	200	198	185	99	92	75-125	7	30	
1,4-Dichlorobenzene	ug/L	ND	200	200	191	180	96	90	74-125	6	30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	4000	4000	4200	4110	105	103	67-128	2	30	
2-Butanone (MEK)	ug/L	ND	1000	1000	1050	1020	105	102	59-125	3	30	
2-Hexanone	ug/L	ND	1000	1000	1150	1030	115	103	68-138	11	30	
2-Propanol	ug/L	ND	2000	2000	1930	1780	82	74	44-150	8	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	1000	1000	1070	1000	107	100	73-125	6	30	
Acetone	ug/L	ND	1000	1000	1010	1000	101	100	75-150	0	30	
Acrylonitrile	ug/L	ND	2020	2020	2080	2020	103	100	69-127	3	30	
Benzene	ug/L	12.6	200	200	210	201	99	94	74-125	5	30	
Bromochloromethane	ug/L	ND	200	200	192	188	96	94	75-125	2	30	
Bromodichloromethane	ug/L	ND	200	200	196	185	98	93	75-125	6	30	
Bromoform	ug/L	ND	200	200	194	191	97	95	68-125	2	30	
Bromomethane	ug/L	ND	200	200	168	166	84	83	37-149	1	30	
Carbon disulfide	ug/L	ND	200	200	220	208	110	104	66-139	5	30	
Carbon tetrachloride	ug/L	ND	200	200	205	196	102	98	75-127	5	30	
Chlorobenzene	ug/L	ND	200	200	200	186	100	93	75-125	7	30	
Chloroethane	ug/L	ND	200	200	202	159	101	80	73-134	24	30	
Chloroform	ug/L	ND	200	200	188	180	94	90	71-125	5	30	
Chloromethane	ug/L	ND	200	200	185	206	92	103	58-133	11	30	
cis-1,2-Dichloroethene	ug/L	ND	200	200	192	186	96	93	75-125	3	30	
cis-1,3-Dichloropropene	ug/L	ND	200	200	220	205	110	102	71-125	7	30	
Cyclohexane	ug/L	ND	1000	1000	1070	1020	106	101	73-148	5	30 N2	
Dibromochloromethane	ug/L	ND	200	200	220	211	110	105	75-125	4	30	
Dibromomethane	ug/L	ND	200	200	217	212	108	106	75-125	2	30	
Dichlorodifluoromethane	ug/L	ND	200	200	217	207	109	104	70-150	5	30	
Ethylbenzene	ug/L	13.9	200	200	226	212	106	99	75-125	7	30	
Iodomethane	ug/L	ND	200	200	200	186	100	93	73-138	7	30	
Isopropylbenzene (Cumene)	ug/L	ND	200	200	214	199	106	99	75-125	7	30	
Methyl-tert-butyl ether	ug/L	7.2	200	200	204	203	98	98	75-125	0	30	
Methylene Chloride	ug/L	ND	200	200	192	185	96	93	72-125	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3143377 3143378											
Parameter	Units	10457985001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
n-Hexane	ug/L	ND	500	500	641	589	128	118	37-150	8	30
n-Propylbenzene	ug/L	ND	200	200	227	213	111	104	75-126	7	30
Styrene	ug/L	ND	200	200	226	210	113	105	71-125	7	30
Tetrachloroethene	ug/L	ND	200	200	226	217	113	108	75-125	4	30
Tetrahydrofuran	ug/L	ND	2000	2000	2190	2070	109	104	75-150	5	30
Toluene	ug/L	ND	200	200	205	183	102	91	74-125	11	30
trans-1,2-Dichloroethene	ug/L	ND	200	200	205	190	103	95	75-125	8	30
trans-1,3-Dichloropropene	ug/L	ND	200	200	206	201	103	101	70-125	2	30
trans-1,4-Dichloro-2-butene	ug/L	ND	504	504	358	360	71	72	57-125	1	30
Trichloroethene	ug/L	ND	200	200	212	196	106	98	75-125	8	30
Trichlorofluoromethane	ug/L	ND	200	200	203	199	102	100	75-135	2	30
Vinyl acetate	ug/L	ND	200	200	230	226	115	113	57-136	2	30
Vinyl chloride	ug/L	ND	200	200	217	208	109	104	74-141	4	30
Xylene (Total)	ug/L	ND	600	600	662	610	109	100	75-125	8	30
1,2-Dichloroethane-d4 (S)	%						96	99	75-125		
4-Bromofluorobenzene (S)	%						106	107	75-125		
Toluene-d8 (S)	%						100	95	75-125		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 579683 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10457409011, 10457409013, 10457409014, 10457409015, 10457409026

METHOD BLANK: 3144135 Matrix: Water
Associated Lab Samples: 10457409011, 10457409013, 10457409014, 10457409015, 10457409026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	12/07/18 22:25	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	12/07/18 22:25	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	12/07/18 22:25	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	12/07/18 22:25	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	12/07/18 22:25	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	12/07/18 22:25	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	12/07/18 22:25	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	12/07/18 22:25	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	12/07/18 22:25	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	12/07/18 22:25	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	12/07/18 22:25	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	12/07/18 22:25	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	12/07/18 22:25	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	12/07/18 22:25	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	12/07/18 22:25	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	12/07/18 22:25	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	12/07/18 22:25	
2-Hexanone	ug/L	<0.88	5.0	0.88	12/07/18 22:25	
2-Propanol	ug/L	<11.4	100	11.4	12/07/18 22:25	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	12/07/18 22:25	
Acetone	ug/L	<9.2	20.0	9.2	12/07/18 22:25	
Acrylonitrile	ug/L	<0.91	10.0	0.91	12/07/18 22:25	
Benzene	ug/L	<0.10	0.50	0.10	12/07/18 22:25	
Bromochloromethane	ug/L	<0.27	1.0	0.27	12/07/18 22:25	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	12/07/18 22:25	
Bromoform	ug/L	<0.80	4.0	0.80	12/07/18 22:25	
Bromomethane	ug/L	<1.8	4.0	1.8	12/07/18 22:25	
Carbon disulfide	ug/L	<0.078	1.0	0.078	12/07/18 22:25	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	12/07/18 22:25	
Chlorobenzene	ug/L	<0.17	0.50	0.17	12/07/18 22:25	
Chloroethane	ug/L	<0.49	1.0	0.49	12/07/18 22:25	
Chloroform	ug/L	<0.45	1.0	0.45	12/07/18 22:25	
Chloromethane	ug/L	<0.16	4.0	0.16	12/07/18 22:25	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/07/18 22:25	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	12/07/18 22:25	
Cyclohexane	ug/L	<0.54	5.0	0.54	12/07/18 22:25	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	12/07/18 22:25	
Dibromomethane	ug/L	<0.16	1.0	0.16	12/07/18 22:25	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	12/07/18 22:25	
Ethylbenzene	ug/L	<0.14	0.50	0.14	12/07/18 22:25	
Iodomethane	ug/L	<0.82	4.0	0.82	12/07/18 22:25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

METHOD BLANK: 3144135

Matrix: Water

Associated Lab Samples: 10457409011, 10457409013, 10457409014, 10457409015, 10457409026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	12/07/18 22:25	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	12/07/18 22:25	
Methylene Chloride	ug/L	<0.98	4.0	0.98	12/07/18 22:25	
n-Hexane	ug/L	<0.93	10.0	0.93	12/07/18 22:25	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	12/07/18 22:25	
Styrene	ug/L	<0.19	0.50	0.19	12/07/18 22:25	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	12/07/18 22:25	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	12/07/18 22:25	
Toluene	ug/L	<0.083	0.50	0.083	12/07/18 22:25	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/07/18 22:25	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	12/07/18 22:25	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	12/07/18 22:25	
Trichloroethene	ug/L	<0.15	0.40	0.15	12/07/18 22:25	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	12/07/18 22:25	
Vinyl acetate	ug/L	<1.1	10.0	1.1	12/07/18 22:25	
Vinyl chloride	ug/L	<0.092	0.20	0.092	12/07/18 22:25	
Xylene (Total)	ug/L	<0.31	1.5	0.31	12/07/18 22:25	
1,2-Dichloroethane-d4 (S)	%	100	75-125		12/07/18 22:25	
4-Bromofluorobenzene (S)	%	104	75-125		12/07/18 22:25	
Toluene-d8 (S)	%	102	75-125		12/07/18 22:25	

LABORATORY CONTROL SAMPLE: 3144136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	96	75-125	
1,1,1-Trichloroethane	ug/L	20	20.0	100	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	75-125	
1,1,2-Trichloroethane	ug/L	20	19.6	98	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.8	99	72-125	
1,1-Dichloroethane	ug/L	20	18.7	93	75-125	
1,1-Dichloroethene	ug/L	20	19.6	98	73-125	
1,2,3-Trichloropropane	ug/L	20	19.6	98	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.8	99	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	
1,2-Dichlorobenzene	ug/L	20	18.5	93	75-125	
1,2-Dichloroethane	ug/L	20	17.9	90	75-125	
1,2-Dichloropropane	ug/L	20	18.8	94	75-125	
1,4-Dichlorobenzene	ug/L	20	17.9	90	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	404	101	75-125	
2-Butanone (MEK)	ug/L	100	96.3	96	65-126	
2-Hexanone	ug/L	100	96.7	97	75-134	
2-Propanol	ug/L	200	187	93	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.0	94	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

LABORATORY CONTROL SAMPLE: 3144136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	96.8	97	68-150	
Acrylonitrile	ug/L	202	193	96	75-125	
Benzene	ug/L	20	19.1	96	75-125	
Bromochloromethane	ug/L	20	18.7	94	75-125	
Bromodichloromethane	ug/L	20	18.4	92	75-125	
Bromoform	ug/L	20	18.0	90	70-125	
Bromomethane	ug/L	20	13.9	69	30-145	
Carbon disulfide	ug/L	20	20.2	101	67-125	
Carbon tetrachloride	ug/L	20	19.9	100	75-125	
Chlorobenzene	ug/L	20	19.0	95	75-125	
Chloroethane	ug/L	20	19.7	99	73-131	
Chloroform	ug/L	20	18.3	92	75-125	
Chloromethane	ug/L	20	20.7	104	52-132	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.4	102	75-125	
Cyclohexane	ug/L	100	102	102	66-125	N2
Dibromochloromethane	ug/L	20	20.3	102	75-125	
Dibromomethane	ug/L	20	20.9	104	75-125	
Dichlorodifluoromethane	ug/L	20	22.4	112	64-127	
Ethylbenzene	ug/L	20	20.0	100	75-125	
Iodomethane	ug/L	20	18.9	95	72-127	
Isopropylbenzene (Cumene)	ug/L	20	20.0	100	75-125	
Methyl-tert-butyl ether	ug/L	20	18.2	91	75-125	
Methylene Chloride	ug/L	20	18.0	90	72-125	
n-Hexane	ug/L	50	58.5	117	49-138	
n-Propylbenzene	ug/L	20	20.7	104	75-125	
Styrene	ug/L	20	21.2	106	75-125	
Tetrachloroethene	ug/L	20	22.3	112	75-125	
Tetrahydrofuran	ug/L	200	204	102	64-150	
Toluene	ug/L	20	19.8	99	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.1	96	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	31.7	63	57-126	
Trichloroethene	ug/L	20	20.4	102	75-125	
Trichlorofluoromethane	ug/L	20	21.0	105	74-126	
Vinyl acetate	ug/L	20	21.3	106	72-129	
Vinyl chloride	ug/L	20	22.3	112	71-130	
Xylene (Total)	ug/L	60	61.3	102	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			103	75-125	
Toluene-d8 (S)	%			101	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	10457175020		3144137		3144138		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20.7	19.0	104	95	75-125	9	30		
1,1,1-Trichloroethane	ug/L	ND	20	20	22.8	20.1	114	101	75-129	12	30		
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.9	18.6	104	93	75-125	12	30		
1,1,2-Trichloroethane	ug/L	ND	20	20	20.7	18.7	103	93	75-125	10	30		
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	23.1	20.4	115	102	75-136	13	30		
1,1-Dichloroethane	ug/L	ND	20	20	20.8	18.5	104	92	75-125	12	30		
1,1-Dichloroethene	ug/L	ND	20	20	22.6	20.2	113	101	75-127	11	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	21.3	18.6	106	93	75-125	14	30		
1,2,4-Trimethylbenzene	ug/L	ND	20	20	21.4	19.6	107	98	71-125	9	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	52.5	47.2	105	94	61-127	11	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	22.1	20.3	110	101	75-125	9	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	20.0	18.0	100	90	75-125	11	30		
1,2-Dichloroethane	ug/L	ND	20	20	19.0	17.0	95	85	69-125	11	30		
1,2-Dichloropropane	ug/L	ND	20	20	20.2	17.8	101	89	75-125	13	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	19.6	17.3	98	86	74-125	13	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	408	384	102	96	67-128	6	30		
2-Butanone (MEK)	ug/L	ND	100	100	105	93.4	105	93	59-125	11	30		
2-Hexanone	ug/L	ND	100	100	105	94.2	105	94	68-138	11	30		
2-Propanol	ug/L	ND	200	200	209	207	105	103	44-150	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	102	91.3	102	91	73-125	11	30		
Acetone	ug/L	ND	100	100	104	95.4	102	93	75-150	9	30		
Acrylonitrile	ug/L	ND	202	202	208	185	103	92	69-127	12	30		
Benzene	ug/L	ND	20	20	21.0	18.8	105	94	74-125	11	30		
Bromochloromethane	ug/L	ND	20	20	20.3	17.9	102	89	75-125	13	30		
Bromodichloromethane	ug/L	ND	20	20	19.6	17.7	98	88	75-125	10	30		
Bromoform	ug/L	ND	20	20	19.3	17.3	97	86	68-125	11	30		
Bromomethane	ug/L	ND	20	20	19.9	17.4	99	87	37-149	14	30		
Carbon disulfide	ug/L	ND	20	20	23.7	21.3	118	107	66-139	10	30		
Carbon tetrachloride	ug/L	ND	20	20	22.5	20.1	113	101	75-127	11	30		
Chlorobenzene	ug/L	ND	20	20	20.3	18.3	102	91	75-125	11	30		
Chloroethane	ug/L	ND	20	20	23.6	21.4	118	107	73-134	10	30		
Chloroform	ug/L	ND	20	20	19.5	17.5	98	87	71-125	11	30		
Chloromethane	ug/L	ND	20	20	25.6	23.4	128	117	58-133	9	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.1	18.0	101	90	75-125	11	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	21.6	19.1	108	96	71-125	12	30		
Cyclohexane	ug/L	ND	100	100	118	106	118	106	73-148	11	30	N2	
Dibromochloromethane	ug/L	ND	20	20	21.9	20.1	110	101	75-125	9	30		
Dibromomethane	ug/L	ND	20	20	22.0	19.9	110	100	75-125	10	30		
Dichlorodifluoromethane	ug/L	ND	20	20	25.7	23.8	129	119	70-150	8	30		
Ethylbenzene	ug/L	ND	20	20	21.7	19.6	109	98	75-125	11	30		
Iodomethane	ug/L	ND	20	20	20.5	18.2	102	91	73-138	12	30		
Isopropylbenzene (Cumene)	ug/L	ND	20	20	22.2	19.9	111	100	75-125	11	30		
Methyl-tert-butyl ether	ug/L	74.0	20	20	97.3	90.9	116	84	75-125	7	30		
Methylene Chloride	ug/L	ND	20	20	20.0	17.9	98	87	72-125	11	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	3144137		3144138		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10457175020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
n-Hexane	ug/L	ND	50	50	65.6	60.7	131	121	37-150	8	30		
n-Propylbenzene	ug/L	ND	20	20	22.7	20.5	113	103	75-126	10	30		
Styrene	ug/L	ND	20	20	22.6	20.5	113	103	71-125	10	30		
Tetrachloroethene	ug/L	ND	20	20	23.9	21.7	120	108	75-125	10	30		
Tetrahydrofuran	ug/L	ND	200	200	213	190	106	95	75-150	11	30		
Toluene	ug/L	ND	20	20	21.1	19.3	105	96	74-125	9	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	21.7	19.3	108	96	75-125	12	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	20.3	18.6	102	93	70-125	9	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50.4	50.4	34.8	31.5	69	63	57-125	10	30		
Trichloroethene	ug/L	ND	20	20	22.3	20.2	111	101	75-125	10	30		
Trichlorofluoromethane	ug/L	ND	20	20	23.9	22.8	119	114	75-135	5	30		
Vinyl acetate	ug/L	ND	20	20	22.4	20.0	112	100	57-136	11	30		
Vinyl chloride	ug/L	ND	20	20	25.0	23.9	125	120	74-141	5	30		
Xylene (Total)	ug/L	ND	60	60	64.9	59.3	108	99	75-125	9	30		
1,2-Dichloroethane-d4 (S)	%						99	97	75-125				
4-Bromofluorobenzene (S)	%						105	104	75-125				
Toluene-d8 (S)	%						95	103	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 579984 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10457409008, 10457409012, 10457409027

METHOD BLANK: 3145849 Matrix: Water
Associated Lab Samples: 10457409008, 10457409012, 10457409027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	12/10/18 22:02	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	12/10/18 22:02	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	12/10/18 22:02	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	12/10/18 22:02	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	12/10/18 22:02	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	12/10/18 22:02	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	12/10/18 22:02	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	12/10/18 22:02	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	12/10/18 22:02	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	12/10/18 22:02	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	12/10/18 22:02	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	12/10/18 22:02	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	12/10/18 22:02	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	12/10/18 22:02	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	12/10/18 22:02	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	12/10/18 22:02	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	12/10/18 22:02	
2-Hexanone	ug/L	<0.88	5.0	0.88	12/10/18 22:02	
2-Propanol	ug/L	<11.4	100	11.4	12/10/18 22:02	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	12/10/18 22:02	
Acetone	ug/L	<9.2	20.0	9.2	12/10/18 22:02	
Acrylonitrile	ug/L	<0.91	10.0	0.91	12/10/18 22:02	
Benzene	ug/L	<0.10	0.50	0.10	12/10/18 22:02	
Bromochloromethane	ug/L	<0.27	1.0	0.27	12/10/18 22:02	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	12/10/18 22:02	
Bromoform	ug/L	<0.80	4.0	0.80	12/10/18 22:02	
Bromomethane	ug/L	<1.8	4.0	1.8	12/10/18 22:02	
Carbon disulfide	ug/L	<0.078	1.0	0.078	12/10/18 22:02	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	12/10/18 22:02	
Chlorobenzene	ug/L	<0.17	0.50	0.17	12/10/18 22:02	
Chloroethane	ug/L	<0.49	1.0	0.49	12/10/18 22:02	
Chloroform	ug/L	<0.45	1.0	0.45	12/10/18 22:02	
Chloromethane	ug/L	<0.16	4.0	0.16	12/10/18 22:02	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/10/18 22:02	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	12/10/18 22:02	
Cyclohexane	ug/L	<0.54	5.0	0.54	12/10/18 22:02	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	12/10/18 22:02	
Dibromomethane	ug/L	<0.16	1.0	0.16	12/10/18 22:02	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	12/10/18 22:02	
Ethylbenzene	ug/L	<0.14	0.50	0.14	12/10/18 22:02	
Iodomethane	ug/L	<0.82	4.0	0.82	12/10/18 22:02	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

METHOD BLANK: 3145849 Matrix: Water
Associated Lab Samples: 10457409008, 10457409012, 10457409027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	12/10/18 22:02	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	12/10/18 22:02	
Methylene Chloride	ug/L	<0.98	4.0	0.98	12/10/18 22:02	
n-Hexane	ug/L	<0.93	10.0	0.93	12/10/18 22:02	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	12/10/18 22:02	
Styrene	ug/L	<0.19	0.50	0.19	12/10/18 22:02	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	12/10/18 22:02	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	12/10/18 22:02	
Toluene	ug/L	<0.083	0.50	0.083	12/10/18 22:02	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/10/18 22:02	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	12/10/18 22:02	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	12/10/18 22:02	
Trichloroethene	ug/L	<0.15	0.40	0.15	12/10/18 22:02	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	12/10/18 22:02	
Vinyl acetate	ug/L	<1.1	10.0	1.1	12/10/18 22:02	
Vinyl chloride	ug/L	<0.092	0.20	0.092	12/10/18 22:02	
Xylene (Total)	ug/L	<0.31	1.5	0.31	12/10/18 22:02	
1,2-Dichloroethane-d4 (S)	%	96	75-125		12/10/18 22:02	
4-Bromofluorobenzene (S)	%	104	75-125		12/10/18 22:02	
Toluene-d8 (S)	%	93	75-125		12/10/18 22:02	

LABORATORY CONTROL SAMPLE: 3145850

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	20.6	103	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	98	75-125	
1,1,2-Trichloroethane	ug/L	20	19.6	98	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.9	100	72-125	
1,1-Dichloroethane	ug/L	20	19.1	96	75-125	
1,1-Dichloroethene	ug/L	20	19.4	97	73-125	
1,2,3-Trichloropropane	ug/L	20	19.8	99	75-125	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	51.0	102	64-133	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	
1,2-Dichlorobenzene	ug/L	20	18.0	90	75-125	
1,2-Dichloroethane	ug/L	20	18.5	92	75-125	
1,2-Dichloropropane	ug/L	20	18.9	95	75-125	
1,4-Dichlorobenzene	ug/L	20	17.4	87	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	358	90	75-125	
2-Butanone (MEK)	ug/L	100	104	104	65-126	
2-Hexanone	ug/L	100	99.5	100	75-134	
2-Propanol	ug/L	200	184	92	54-147	
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.7	98	75-131	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

LABORATORY CONTROL SAMPLE: 3145850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	95.0	95	68-150	
Acrylonitrile	ug/L	202	206	102	75-125	
Benzene	ug/L	20	19.6	98	75-125	
Bromochloromethane	ug/L	20	19.2	96	75-125	
Bromodichloromethane	ug/L	20	19.0	95	75-125	
Bromoform	ug/L	20	18.8	94	70-125	
Bromomethane	ug/L	20	13.9	70	30-145	
Carbon disulfide	ug/L	20	20.9	105	67-125	
Carbon tetrachloride	ug/L	20	20.2	101	75-125	
Chlorobenzene	ug/L	20	18.7	93	75-125	
Chloroethane	ug/L	20	21.6	108	73-131	
Chloroform	ug/L	20	18.8	94	75-125	
Chloromethane	ug/L	20	22.4	112	52-132	
cis-1,2-Dichloroethene	ug/L	20	18.9	95	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.8	104	75-125	
Cyclohexane	ug/L	100	100	100	66-125	N2
Dibromochloromethane	ug/L	20	21.1	105	75-125	
Dibromomethane	ug/L	20	20.7	104	75-125	
Dichlorodifluoromethane	ug/L	20	21.7	109	64-127	
Ethylbenzene	ug/L	20	19.2	96	75-125	
Iodomethane	ug/L	20	18.9	94	72-127	
Isopropylbenzene (Cumene)	ug/L	20	19.6	98	75-125	
Methyl-tert-butyl ether	ug/L	20	18.9	94	75-125	
Methylene Chloride	ug/L	20	19.1	96	72-125	
n-Hexane	ug/L	50	50.5	101	49-138	
n-Propylbenzene	ug/L	20	19.4	97	75-125	
Styrene	ug/L	20	20.8	104	75-125	
Tetrachloroethene	ug/L	20	20.9	105	75-125	
Tetrahydrofuran	ug/L	200	195	98	64-150	
Toluene	ug/L	20	19.3	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	75-125	
trans-1,3-Dichloropropene	ug/L	20	19.7	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50.4	32.9	65	57-126	
Trichloroethene	ug/L	20	20.0	100	75-125	
Trichlorofluoromethane	ug/L	20	21.0	105	74-126	
Vinyl acetate	ug/L	20	23.1	116	72-129	
Vinyl chloride	ug/L	20	21.2	106	71-130	
Xylene (Total)	ug/L	60	58.5	97	75-125	
1,2-Dichloroethane-d4 (S)	%			101	75-125	
4-Bromofluorobenzene (S)	%			103	75-125	
Toluene-d8 (S)	%			100	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	3145851		3145852		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10457175011 Result	MS Spike Conc.	MSD Spike Conc.	MSD Result							
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	18.5	18.2	92	91	75-125	1	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	20.5	20.7	102	104	75-129	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	19.8	19.5	99	98	75-125	1	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	18.4	17.7	92	89	75-125	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	20.1	20.8	100	104	75-136	3	30	
1,1-Dichloroethane	ug/L	ND	20	20	19.5	19.7	98	99	75-125	1	30	
1,1-Dichloroethene	ug/L	ND	20	20	19.8	20.1	99	100	75-127	1	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	18.2	19.2	91	96	75-125	5	30	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	18.8	18.9	93	93	71-125	0	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	49.0	50.7	98	101	61-127	3	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	19.1	19.0	96	95	75-125	1	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	17.0	16.9	85	84	75-125	1	30	
1,2-Dichloroethane	ug/L	ND	20	20	16.6	16.7	83	83	69-125	1	30	
1,2-Dichloropropane	ug/L	ND	20	20	18.2	18.1	91	91	75-125	0	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	16.4	16.9	82	84	74-125	3	30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	367	341	92	85	67-128	7	30	
2-Butanone (MEK)	ug/L	ND	100	100	120	120	120	120	59-125	0	30	
2-Hexanone	ug/L	ND	100	100	97.4	92.5	97	92	68-138	5	30	
2-Propanol	ug/L	ND	200	200	183	176	91	88	44-150	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	93.0	85.5	93	86	73-125	8	30	
Acetone	ug/L	ND	100	100	93.7	91.1	94	91	75-150	3	30	
Acrylonitrile	ug/L	ND	202	202	215	222	106	110	69-127	4	30	
Benzene	ug/L	0.53	20	20	19.1	19.3	93	94	74-125	1	30	
Bromochloromethane	ug/L	ND	20	20	17.3	17.9	86	89	75-125	3	30	
Bromodichloromethane	ug/L	ND	20	20	18.0	17.7	90	89	75-125	1	30	
Bromoform	ug/L	ND	20	20	16.5	16.9	82	85	68-125	3	30	
Bromomethane	ug/L	ND	20	20	15.6	17.7	78	88	37-149	12	30	
Carbon disulfide	ug/L	ND	20	20	21.3	21.5	106	107	66-139	1	30	
Carbon tetrachloride	ug/L	ND	20	20	20.4	20.4	102	102	75-127	0	30	
Chlorobenzene	ug/L	ND	20	20	17.9	17.4	89	87	75-125	2	30	
Chloroethane	ug/L	ND	20	20	16.3	16.8	81	84	73-134	3	30	
Chloroform	ug/L	ND	20	20	17.7	17.8	89	89	71-125	1	30	
Chloromethane	ug/L	ND	20	20	20.8	24.3	104	121	58-133	16	30	
cis-1,2-Dichloroethene	ug/L	ND	20	20	18.1	18.1	90	90	75-125	0	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.8	19.8	99	99	71-125	0	30	
Cyclohexane	ug/L	33.1	100	100	168	179	135	145	73-148	6	30	N2
Dibromochloromethane	ug/L	ND	20	20	18.8	18.7	94	93	75-125	1	30	
Dibromomethane	ug/L	ND	20	20	18.8	19.2	94	96	75-125	2	30	
Dichlorodifluoromethane	ug/L	ND	20	20	21.1	21.7	105	109	70-150	3	30	
Ethylbenzene	ug/L	8.4	20	20	38.4	39.1	150	153	75-125	2	30	M1
Iodomethane	ug/L	ND	20	20	18.5	19.0	93	95	73-138	3	30	
Isopropylbenzene (Cumene)	ug/L	43.2	20	20	62.6	62.3	97	95	75-125	0	30	
Methyl-tert-butyl ether	ug/L	10.8	20	20	28.2	30.1	87	96	75-125	6	30	
Methylene Chloride	ug/L	ND	20	20	17.4	17.7	87	88	72-125	2	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Parameter	Units	3145851		3145852		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
n-Hexane	ug/L	ND	50	50	55.6	53.4	111	107	37-150	4	30
n-Propylbenzene	ug/L	35.4	20	20	58.0	56.7	113	107	75-126	2	30
Styrene	ug/L	ND	20	20	19.9	19.3	99	96	71-125	3	30
Tetrachloroethene	ug/L	ND	20	20	21.3	20.4	107	102	75-125	4	30
Tetrahydrofuran	ug/L	ND	200	200	183	177	92	89	75-150	3	30
Toluene	ug/L	ND	20	20	19.0	18.7	95	94	74-125	1	30
trans-1,2-Dichloroethene	ug/L	ND	20	20	19.1	19.6	95	98	75-125	3	30
trans-1,3-Dichloropropene	ug/L	ND	20	20	17.9	17.9	90	90	70-125	0	30
trans-1,4-Dichloro-2-butene	ug/L	ND	50.4	50.4	32.9	30.2	65	60	57-125	9	30
Trichloroethene	ug/L	ND	20	20	20.5	19.7	102	99	75-125	4	30
Trichlorofluoromethane	ug/L	ND	20	20	19.9	20.6	100	103	75-135	3	30
Vinyl acetate	ug/L	ND	20	20	19.9	20.8	100	104	57-136	5	30
Vinyl chloride	ug/L	ND	20	20	20.6	21.3	103	107	74-141	4	30
Xylene (Total)	ug/L	ND	60	60	58.1	56.0	97	93	75-125	4	30
1,2-Dichloroethane-d4 (S)	%						96	97	75-125		HS
4-Bromofluorobenzene (S)	%						112	111	75-125		
Toluene-d8 (S)	%						103	102	75-125		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

QC Batch: 578874 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 10457409002, 10457409003, 10457409004, 10457409005, 10457409007, 10457409008, 10457409011, 10457409012, 10457409013, 10457409014, 10457409015, 10457409017, 10457409022, 10457409025, 10457409026, 10457409027

METHOD BLANK: 3139695 Matrix: Water
 Associated Lab Samples: 10457409002, 10457409003, 10457409004, 10457409005, 10457409007, 10457409008, 10457409011, 10457409012, 10457409013, 10457409014, 10457409015, 10457409017, 10457409022, 10457409025, 10457409026, 10457409027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.28	1.2	0.28	12/05/18 04:21	
Sulfate	mg/L	<0.19	1.2	0.19	12/05/18 04:21	

LABORATORY CONTROL SAMPLE: 3139696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.0	96	90-110	
Sulfate	mg/L	12.5	11.8	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139697 3139698

Parameter	Units	10457409002		3139698		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Chloride	mg/L	31.8	12.5	12.5	38.3	38.4	52	53	90-110	0	20 M1
Sulfate	mg/L	21.3	12.5	12.5	30.1	30.2	70	71	90-110	0	20 M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3139699 3139700

Parameter	Units	10457409003		3139700		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Chloride	mg/L	20.5	12.5	12.5	29.4	29.1	71	69	90-110	1	20 M1
Sulfate	mg/L	21.2	12.5	12.5	30.6	30.3	75	73	90-110	1	20 M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-7103267D.400 Bozeman LF
Pace Project No.: 10457409

QC Batch: 580704 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10457409001, 10457409002, 10457409003, 10457409004, 10457409005, 10457409006, 10457409007, 10457409008, 10457409009, 10457409010, 10457409011, 10457409012, 10457409013, 10457409022, 10457409023, 10457409026, 10457409027

METHOD BLANK: 3148992 Matrix: Water
Associated Lab Samples: 10457409001, 10457409002, 10457409003, 10457409004, 10457409005, 10457409006, 10457409007, 10457409008, 10457409009, 10457409010, 10457409011, 10457409012, 10457409013, 10457409022, 10457409023, 10457409026, 10457409027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.018	0.10	0.018	12/13/18 15:08	FS

LABORATORY CONTROL SAMPLE: 3148993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	1	0.98	98	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3148994 3148995

Parameter	Units	10457409009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	<0.018	1	1	0.89	0.90	88	88	90-110	1	20	FS,M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3148996 3148997

Parameter	Units	10457409010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	6.5	5	5	11.5	11.4	100	97	90-110	1	20	E

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

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

FS The sample was filtered in the laboratory prior to analysis.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

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

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

P8 Analyte was detected in the method blank. All associated samples had concentrations of at least ten times greater than the blank or were below the reporting limit.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10457409002	LF-3	EPA 3020	580844	EPA 6020	581101
10457409003	MW-4	EPA 3020	580844	EPA 6020	581101
10457409004	MW-5	EPA 3020	579208	EPA 6020	580554
10457409005	MW-6	EPA 3020	579208	EPA 6020	580554
10457409007	MW-8A	EPA 3020	580844	EPA 6020	581101
10457409008	MW-9A	EPA 3020	580844	EPA 6020	581101
10457409011	MW-12	EPA 3020	579208	EPA 6020	580554
10457409012	MW-13	EPA 3020	579208	EPA 6020	580554
10457409013	MW-15	EPA 3020	579208	EPA 6020	580554
10457409014	MW-17	EPA 3020	580844	EPA 6020	581101
10457409015	MW-18	EPA 3020	579208	EPA 6020	580554
10457409017	MW-20	EPA 3020	580844	EPA 6020	581101
10457409022	MW-27	EPA 3020	580844	EPA 6020	581101
10457409023	McIlhattan Seep	EPA 3020	580844	EPA 6020	581101
10457409024	Valley View Vet Well	EPA 3020	579208	EPA 6020	580554
10457409025	DUP 1	EPA 3020	580844	EPA 6020	581101
10457409026	DUP 2	EPA 3020	579208	EPA 6020	580554
10457409027	DUP 3	EPA 3020	579208	EPA 6020	580554
10457409001	LF-2	EPA 8260B	579447		
10457409002	LF-3	EPA 8260B	579447		
10457409003	MW-4	EPA 8260B	579447		
10457409004	MW-5	EPA 8260B	579447		
10457409005	MW-6	EPA 8260B	579447		
10457409006	MW-7A	EPA 8260B	579447		
10457409007	MW-8A	EPA 8260B	579447		
10457409008	MW-9A	EPA 8260B	579984		
10457409009	MW-10	EPA 8260B	579447		
10457409010	MW-11	EPA 8260B	579447		
10457409011	MW-12	EPA 8260B	579683		
10457409012	MW-13	EPA 8260B	579984		
10457409013	MW-15	EPA 8260B	579683		
10457409014	MW-17	EPA 8260B	579683		
10457409015	MW-18	EPA 8260B	579683		
10457409016	MW-19	EPA 8260B	579447		
10457409017	MW-20	EPA 8260B	579447		
10457409018	MW-21	EPA 8260B	579447		
10457409019	MW-22	EPA 8260B	579447		
10457409020	MW-23	EPA 8260B	579447		
10457409021	MW-24	EPA 8260B	579447		
10457409022	MW-27	EPA 8260B	579447		
10457409023	McIlhattan Seep	EPA 8260B	579447		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-7103267D.400 Bozeman LF

Pace Project No.: 10457409

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10457409024	Valley View Vet Well	EPA 8260B	579447		
10457409025	DUP 1	EPA 8260B	579447		
10457409026	DUP 2	EPA 8260B	579683		
10457409027	DUP 3	EPA 8260B	579984		
10457409028	Trip Blank 1	EPA 8260B	579536		
10457409029	Trip Blank 2	EPA 8260B	579536		
10457409002	LF-3	EPA 300.0	578874		
10457409003	MW-4	EPA 300.0	578874		
10457409004	MW-5	EPA 300.0	578874		
10457409005	MW-6	EPA 300.0	578874		
10457409007	MW-8A	EPA 300.0	578874		
10457409008	MW-9A	EPA 300.0	578874		
10457409011	MW-12	EPA 300.0	578874		
10457409012	MW-13	EPA 300.0	578874		
10457409013	MW-15	EPA 300.0	578874		
10457409014	MW-17	EPA 300.0	578874		
10457409015	MW-18	EPA 300.0	578874		
10457409017	MW-20	EPA 300.0	578874		
10457409022	MW-27	EPA 300.0	578874		
10457409025	DUP 1	EPA 300.0	578874		
10457409026	DUP 2	EPA 300.0	578874		
10457409027	DUP 3	EPA 300.0	578874		
10457409001	LF-2	EPA 353.2	580704		
10457409002	LF-3	EPA 353.2	580704		
10457409003	MW-4	EPA 353.2	580704		
10457409004	MW-5	EPA 353.2	580704		
10457409005	MW-6	EPA 353.2	580704		
10457409006	MW-7A	EPA 353.2	580704		
10457409007	MW-8A	EPA 353.2	580704		
10457409008	MW-9A	EPA 353.2	580704		
10457409009	MW-10	EPA 353.2	580704		
10457409010	MW-11	EPA 353.2	580704		
10457409011	MW-12	EPA 353.2	580704		
10457409012	MW-13	EPA 353.2	580704		
10457409013	MW-15	EPA 353.2	580704		
10457409022	MW-27	EPA 353.2	580704		
10457409023	Mclhattan Seep	EPA 353.2	580704		
10457409026	DUP 2	EPA 353.2	580704		
10457409027	DUP 3	EPA 353.2	580704		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3



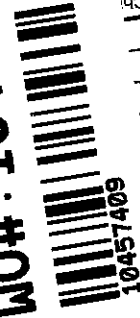
Section A
 Required Client Information:
 Company: Tetra Tech
 Address: 851 Bridger Drive, Suite 6
Bozeman, MT 59715
 Email To: mark-pearson@tetratech.com
 Phone: 406-582-8780 Fax: 406-582-8790
 Requested Due Date/TAT: 10 day

Section B
 Required Project Information:
 Report To: Mark Pearson
 Copy To: _____
 Purchase Order No.: _____
 Project Name: Bozeman Landfill
 Project Number: 114-7103267.400

Section C
 Invoice Information:
 Attention: Deb Lloyd
 Company Name: (same as Section A)
 Address: _____
 Pace Quote Reference: Beverly Faraday
 Pace Project Manager: _____
 Pace Profile #: 21198

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MT
 STATE: _____

Requested Analysis Filtered (Y/N)
WO# : 10457409



ITEM #	SAMPLE ID (A-Z, 0-9, /, -) Sample IDs MUST BE UNIQUE	COLLECTED		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	DATE	TIME	SAMPLER TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
		COMPOSITE START	COMPOSITE END/GRAB															
1	LF-2	WT	G	11/27	1120				4			12/3	600		12/3	600	Y	Y
2	LF-3	WT	G	11/27	1150				6			12/3	600		12/3	600	Y	Y
3	MW-4	WT	G	11/29	930				6			12/3	600		12/3	600	Y	Y
4	MW-5	WT	G	11/28	1000				6			12/3	600		12/3	600	Y	Y
5	MW-6	WT	G	11/29	1200				6			12/3	600		12/3	600	Y	Y
6	MW-7A	WT	G	11/28	1130				6			12/3	600		12/3	600	Y	Y
7	MW-8A	WT	G	11/28	1040				6			12/3	600		12/3	600	Y	Y
8	MW-9A	WT	G	11/28	1430				6			12/3	600		12/3	600	Y	Y
9	MW-10	WT	G	11/29	1030				6			12/3	600		12/3	600	Y	Y
10	MW-11	WT	G	11/27	1040				6			12/3	600		12/3	600	Y	Y
11	MW-12	WT	G	11/28	1350				6			12/3	600		12/3	600	Y	Y
12	MW-13	WT	G	11/29	1110				6			12/3	600		12/3	600	Y	Y

Additional Comments: 3 coolers

RELINQUISHED BY / AFFILIATION: Mark Pearson / FC
 DATE: 12/3/18 TIME: 600
 ACCEPTED BY / AFFILIATION: FedEx Belgrade
Raymond PALE
 DATE: 12/18/18 TIME: 1010

Residual Ch: 001
002
003
004
005
006
007
008
009
010
011
012

Requested Analysis Filtered (Y/N)
 Y/N

DATE SIGNED (MM/DD/YY): 12/3/18
 SIGNATURE: Mark Pearson

PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: Mark Pearson



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
 Required Client Information:
 Company: Tetra Tech
 Address: 851 Bridger Drive, Suite 6
 Bozeman, MT 59715
 Email To: mark.pearson@tetratech.com
 Phone: 406-582-8780 Fax: 406-582-8790
 Requested Due Date/TAT: 10 day

Section B
 Required Project Information:
 Report To: Mark Pearson
 Copy To:
 Purchase Order No.:
 Project Name: Bozeman Landfill
 Project Number: 114-710326 D. 400

Section C
 Invoice Information:
 Attention: Deb Lloyd
 Company Name: (same as Section A)
 Address:
 Pace Quote Reference:
 Pace Project Manager: Beverly Faraday
 Pace Profile #: 21198

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
 STATE: MT

Page: 2 of 3

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER OW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIRE WP AIR AP OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) WT	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test ↑ Y/N	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
		COMPOSITE START DATE TIME	COMPOSITE END/GRAB DATE TIME							
1	MW-15	11/28	1030	G	WT	1				013
2	MW-17	12/15	1300	G	WT	5				014
3	MW-18	11/27	1440	G	WT	3				015
4	MW-19	11/27	1550	G	WT	5				016
5	MW-20	12/20	1240	G	WT	3				017
6	MW-21	1300	1300	G	WT	3				018
7	MW-22	12/40	1300	G	WT	3				019
8	MW-23	1300	1520	G	WT	3				020
9	MW-24	1400	1400	G	WT	3				021
10	MW-25	1100	1020	G	WT	5				022
11	McIlhattan Seep									023
12	Valley View Vet Well									024

ADDITIONAL COMMENTS
 Mark Pearson / Fe 12/3/18 600 Fed Express 12/3/18 600
 Copy Mark PACE 12/4/18 1010

RELINQUISHED BY / AFFILIATION
 DATE TIME

ACCEPTED BY / AFFILIATION
 DATE TIME

SAMPLE CONDITIONS
 Received on Ice (Y/N) Y
 Custody Sealed (Y/N) Y
 Samples Intact (Y/N) Y

Temp in °C
 0.302
 0.7

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YY): 12/3/18



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: **3** of **3**

Section A
 Required Client Information:
 Company: Tetra Tech
 Address: 851 Bridger Drive, Suite 6
 Bozeman, MT 59715
 Email To: mark.pearson@tetratech.com
 Phone: 406-582-8780 Fax: 406-582-8790
 Requested Due Date/TAT: 10 day

Section B
 Required Project Information:
 Report To: Mark Pearson
 Copy To:

Section C
 Invoice Information:
 Attention: Deb Lloyd
 Company Name: (same as Section A)
 Address:
 Pace Quote Reference:
 Pace Project Manager: Beverly Faraday
 Pace Profile #: 21198

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: MT
 STATE:

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW: DRINKING WATER WT: WASTE WATER WW: WASTE WATER PRODUCT P: SOIL/SOLID SL: OIL OL: WIPE WF: AIR AR: OTHER OT: TISSUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB							
1	DUP 1				WT						025
2	DUP 2				G						026
3	DUP 3										027
4	ICIP Blank 1										028
5	ICIP Blank 2										029
6	Hydroxyl										
7											
8											
9											
10											
11											
12											

ADDITIONAL COMMENTS
 6020 Metals: As, Ba, Cd, Cr, Cu, Pb, Mo, Ni, Se, Ag, Na, Zn
 DUP 1 will not be analyzed for N + N

RELINQUISHED BY / AFFILIATION
 Mark Pearson / TTE
 DATE: 12/3/18
 TIME: 600
 SIGNATURE: Mark Pearson

ACCEPTED BY / AFFILIATION
 FedEx, Belgrade
 DATE: 12/3/18
 TIME: 1010
 SIGNATURE: [Signature]

SAMPLE CONDITIONS
 Received on Ice (Y/N): Y
 Custody Sealed (Y/N): Y
 Samples Intact (Y/N): Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: [Signature]
 DATE Signed (MM/DD/YYYY): 12/3/18

December 2018 Monitoring Event - Schedule of Field Measurements and Laboratory Analysis
Bozeman Landfill, Bozeman Montana

TABLE 2

Well or Sampling Site	Existing Monitoring Frequency	DEQ Approved Change	Approximate Depth to Groundwater (below TOC)	Total Depth of Well	December												
					Water Level Measurement	Field pH, SC, DO & ORP	VOCS	'Full List' Metals (dissolved)	Cations	Anions Sulfate Chloride	TDS & Total Hardness	N as NO2+NO3					
LF- 2	Semi-annual monitoring		14.3	19.6	1	1	1										
LF- 3	Semi-annual monitoring		14.2	37.5	1	1	1										
MW- 3	No monitoring requirement. Last event in 2001.		49.0	75.0													
MW- 4	Semi-annual monitoring		20.7	38.0	1	1	1										
MW- 5 *	Semi-annual monitoring		113.9	160.0	1	1	1										
MW- 6 *	Semi-annual monitoring		31.6	56.0	1	1	1										
MW- 6B	Four monitoring events completed		19.5	99.5	1	1	1										
MW- 7A	Four monitoring events completed	Bi-Annual Mon. (next in June 2019)	57.0	65.9	1	1	1										
MW- 7B	DEQ requests next monitoring in 2015	Bi-Annual Mon. (next in June 2019)	57.1	75.0	1	1	1										
MW- 8A *	Semi-annual monitoring		48.9	56.0	1	1	1										
MW- 8B	DEQ requests next monitoring in 2015	Bi-Annual Mon. (next in June 2019)	48.2	70.0	1	1	1										
MW- 8C	Four monitoring events completed	Bi-Annual Mon. (next in June 2019)	45.6	102.9	1	1	1										
MW- 9A	Semi-annual monitoring		28.3	39.0	1	1	1										
MW- 9B	DEQ requests next monitoring in 2015	Bi-Annual Mon. (next in June 2019)	28.6	54.0	1	1	1										
MW- 10	Semi-annual monitoring		2.3	14.5	1	1	1										
MW- 11	Semi-annual monitoring		51.9	70.0	1	1	1										
MW- 12	Semi-annual monitoring		56.5	65.8	1	1	1										
MW- 13	Semi-annual monitoring		43.8	61.3	1	1	1										
MW- 14	Annual mon conducted Dec 2014	No further monitoring	33.3	46.0	1	1	1										
MW- 15 *	Semi-annual monitoring		48.8	72.5	1	1	1										
MW- 16	Four monitoring events completed		26.2	40.0	1	1	1										
MW- 17	Four monitoring events completed	Continuous monitoring in June and December	76.5	85.0	1	1	1										
MW- 18	Four monitoring events completed	Continuous monitoring in June and December	48.0	59.1	1	1	1										
MW- 19	Four monitoring events completed	Continuous monitoring in June and December	22.2	30.5	1	1	1										
MW- 20	Four monitoring events completed	Continuous monitoring in June and December	54.2	65.0	1	1	1										
MW- 21	Four monitoring events completed	Annual Monitoring	9.8	18.0	1	1	1										
MW- 22	Four monitoring events completed	Annual Monitoring	4.8	17.0	1	1	1										
MW- 23	Four monitoring events completed	Annual Monitoring	6.2	16.0	1	1	1										
MW- 24	Four monitoring events completed	Continuous monitoring in June and December	75.7	80.5	1	1	1										
MW- 25	Four monitoring events completed	Bi-Annual Mon. (next in December 2019)	50.7	63.0	1	1	1										
MW- 26	Four monitoring events completed	Bi-Annual Mon. (next in December 2019)	15.0	33.0	1	1	1										
MW- 27	Semi-annual monitoring		19.9	27.0	1	1	1										
Shop/Office Well	Semi-annual monitoring	Bi-Annual Mon. (next in December 2019)															
McIlhatten Seep	Semi-annual monitoring																
Valley View Vet Well	Semi-annual monitoring																
Field Duplicate	Semi-annual monitoring																
Tap Blank	Semi-annual monitoring																
Decont Blank	Semi-annual monitoring																
Total Number of Samples					33	24	30	18	0	16	0	18					

Notes :
 Depth to groundwater and total depth are measurements below ground surface
 MW-3 depth to groundwater and total depth are measurements below ground surface
 * : Point of Compliance Well

VOCS : Volatile organic compounds
Valley View Vet Well will have total recoverable analysis of metals
Wells that will not be sampled or on a reduced schedule

'Full List' : Analysis of 15 metals (reported as dissolved concentrations) including:
 arsenic chromium iron selenium vanadium
 barium cobalt lead silver zinc
 cadmium copper nickel thallium manganese

Sample Condition Upon Receipt **Client Name:** Tetra Tech **Project #:** WO# : 10457409

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____

Tracking Number: 7738 6901 7406/8230/7303

PM: BEF **Due Date:** 12/17/18
CLIENT: 11 Tetra-MT

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 G87A9170600254 **Type of Ice:** Wet Blue None Dry Melted
Used: G87A9155100842

Cooler Temp Read (°C): 0.3/0.2/0.7 **Cooler Temp Corrected (°C):** 0.3/0.2/0.7 **Biological Tissue Frozen?** Yes No N/A
Temp should be above freezing to 5°C **Correction Factor:** true **Date and Initials of Person Examining Contents:** CM 12/4/18

USDA Regulated Soil (N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. <u>LHT</u>
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Matrix: <u>WT</u>	12.
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>2, 5, 7, 8, 11-13, 22, 26, 27</u> : <u>1/1</u> <u>1, 6, 9, 10, 14, 15, 17, 24, 25</u> : <u>1/1</u>
(HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>184876</u>	

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Benny Fung **Date:** 12/4/18

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).

Labeled by: TL



Document Name:
Headspace Exception

Document Revised: 06Nov2017
Page 1 of 1

Document No.:
F-MN-C-276-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Sample ID	Headspace > 6mm	Headspace < 6mm	No Headspace	Total Vials
LF-2	0	0	3	3
LF-3	1	1	1	3
MW-4	0	0	3	3
MW-5	0	3	0	3
MW-6	0	0	3	3
MW-7A	0	2	1	3
MW-8A	0	0	3	3
MW-9A	0	0	3	3
MW-10	0	0	3	3
MW-11	0	1	2	3
MW-12	0	2	1	3
MW-13	0	2	1	3



Document Name:
Headspace Exception

Document Revised: 06Nov2017
Page 1 of 1

Document No.:
F-MN-C-276-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Sample ID	Headspace > 6mm	Headspace < 6mm	No Headspace	Total Vials
MW-15	0	1	2	3
MW-17	1	1	1	3
MW-18	0	3	0	3
MW-19	0	3	0	3
MW-20	1	1	1	3
MW-21	0	2	1	3
MW-22	0	1	2	3
MW-23	1	2	0	3
MW-24	0	0	3	3
MW-27	0	1	2	3
McIlhattan Seep	0	3	0	3
Valley View Vet Well	0	3	0	3



Document Name:
Headspace Exception

Document Revised: 06Nov2017
Page 1 of 1

Document No.:
F-MN-C-276-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Sample ID	Headspace > 6mm	Headspace < 6mm	No Headspace	Total Vials
Dup 1	0	2	1	3
Dup 2	0	2	1	3
Dup 3	0	3	0	3
Trip Blank 1	0	1	0	1
Trip Blank 2	0	1	0	1

April 09, 2019

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

RE: Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10469405

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on April 03, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081

New Jersey Certification #: MN002

New York Certification #: 11647

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification #: MN00064

South Carolina Certification #: 74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192

Utah Certification #: MN00064

Virginia Certification #: 460163

Washington Certification #: C486

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10469405001	LF-2	Water	03/27/19 14:00	04/03/19 09:40
10469405002	LF-3	Water	03/27/19 13:25	04/03/19 09:40
10469405003	MW-12	Water	03/27/19 15:50	04/03/19 09:40
10469405004	MW-17	Water	03/27/19 16:30	04/03/19 09:40
10469405005	MW-18	Water	03/27/19 15:10	04/03/19 09:40
10469405006	MW-20	Water	03/27/19 14:30	04/03/19 09:40
10469405007	#179175TripBlank	Water	03/27/19 00:00	04/03/19 09:40
10469405008	DUP 1	Water	03/27/19 16:00	04/03/19 09:40

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10469405001	LF-2	EPA 8260B	DS2	61	PASI-M
10469405002	LF-3	EPA 8260B	AEZ	61	PASI-M
10469405003	MW-12	EPA 8260B	DS2	61	PASI-M
10469405004	MW-17	EPA 8260B	DS2	61	PASI-M
10469405005	MW-18	EPA 8260B	DS2	61	PASI-M
10469405006	MW-20	EPA 8260B	DS2	61	PASI-M
10469405007	#179175TripBlank	EPA 8260B	DS2	61	PASI-M
10469405008	DUP 1	EPA 8260B	DS2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: April 09, 2019

General Information:

8 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 597597

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

- LCS (Lab ID: 3231500)
 - Carbon disulfide
 - n-Hexane
- MS (Lab ID: 3231501)
 - Carbon disulfide
 - n-Hexane
- MSD (Lab ID: 3231502)
 - Carbon disulfide
 - n-Hexane

Internal Standards:

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

Surrogates:

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

Method Blank:

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

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 597597

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3231500)
 - Carbon disulfide
 - n-Hexane
 - n-Propylbenzene

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: April 09, 2019

Matrix Spikes:

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

QC Batch: 597597

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10469162005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 3231501)
 - Carbon disulfide
 - n-Hexane
- MSD (Lab ID: 3231502)
 - Carbon disulfide

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

- MS (Lab ID: 3231501)
 - 1,1-Dichloroethene
 - Methylene Chloride
 - trans-1,2-Dichloroethene

Additional Comments:

Analyte Comments:

QC Batch: 597597

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- #179175TripBlank (Lab ID: 10469405007)
 - Cyclohexane
- BLANK (Lab ID: 3231499)
 - Cyclohexane
- DUP 1 (Lab ID: 10469405008)
 - Cyclohexane
- LCS (Lab ID: 3231500)
 - Cyclohexane
- LF-2 (Lab ID: 10469405001)
 - Cyclohexane
- MS (Lab ID: 3231501)
 - Cyclohexane
- MSD (Lab ID: 3231502)
 - Cyclohexane
- MW-12 (Lab ID: 10469405003)
 - Cyclohexane
- MW-17 (Lab ID: 10469405004)
 - Cyclohexane
- MW-18 (Lab ID: 10469405005)
 - Cyclohexane
- MW-20 (Lab ID: 10469405006)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: April 09, 2019

Analyte Comments:

QC Batch: 598460

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3235658)
 - Cyclohexane
- LCS (Lab ID: 3235659)
 - Cyclohexane
- LF-3 (Lab ID: 10469405002)
 - Cyclohexane
- MS (Lab ID: 3235660)
 - Cyclohexane
- MSD (Lab ID: 3235661)
 - Cyclohexane

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: LF-2 **Lab ID: 10469405001** Collected: 03/27/19 14:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 14:31	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 14:31	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 14:31	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 14:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 14:31	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 14:31	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 14:31	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 14:31	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 14:31	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 14:31	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 14:31	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 14:31	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 14:31	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/04/19 14:31	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 14:31	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 14:31	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 14:31	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 14:31	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 14:31	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 14:31	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 14:31	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 14:31	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		04/04/19 14:31	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 14:31	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 14:31	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 14:31	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 14:31	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 14:31	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 14:31	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 14:31	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 14:31	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 14:31	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 14:31	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 14:31	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 14:31	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 14:31	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 14:31	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 14:31	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 14:31	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 14:31	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 14:31	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 14:31	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 14:31	100-42-5	
Tetrachloroethene	0.42J	ug/L	0.50	0.17	1		04/04/19 14:31	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 14:31	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 14:31	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: LF-2 **Lab ID: 10469405001** Collected: 03/27/19 14:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		04/04/19 14:31	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 14:31	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 14:31	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		04/04/19 14:31	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 14:31	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		04/04/19 14:31	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 14:31	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 14:31	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 14:31	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 14:31	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 14:31	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 14:31	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-136		1		04/04/19 14:31	17060-07-0	
Toluene-d8 (S)	107	%	75-125		1		04/04/19 14:31	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		04/04/19 14:31	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: LF-3 Lab ID: 10469405002 Collected: 03/27/19 13:25 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	1.0	0.20	1		04/09/19 14:41	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/09/19 14:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/09/19 14:41	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/09/19 14:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/09/19 14:41	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		04/09/19 14:41	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/09/19 14:41	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/09/19 14:41	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		04/09/19 14:41	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/09/19 14:41	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	1.0	0.24	1		04/09/19 14:41	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/09/19 14:41	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/09/19 14:41	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/09/19 14:41	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		04/09/19 14:41	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/09/19 14:41	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/09/19 14:41	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/09/19 14:41	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/09/19 14:41	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/09/19 14:41	108-10-1	
Acetone	23.5	ug/L	20.0	9.2	1		04/09/19 14:41	67-64-1	
Acrylonitrile	8.6J	ug/L	10.0	0.91	1		04/09/19 14:41	107-13-1	
Benzene	39.9	ug/L	0.50	0.10	1		04/09/19 14:41	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/09/19 14:41	74-97-5	
Bromodichloromethane	<0.22	ug/L	1.0	0.22	1		04/09/19 14:41	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/09/19 14:41	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/09/19 14:41	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/09/19 14:41	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/09/19 14:41	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/09/19 14:41	108-90-7	
Chloroethane	0.89J	ug/L	1.0	0.49	1		04/09/19 14:41	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		04/09/19 14:41	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/09/19 14:41	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/09/19 14:41	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		04/09/19 14:41	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/09/19 14:41	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/09/19 14:41	75-71-8	
Ethylbenzene	0.75	ug/L	0.50	0.14	1		04/09/19 14:41	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/09/19 14:41	74-88-4	
Isopropylbenzene (Cumene)	0.28J	ug/L	0.50	0.18	1		04/09/19 14:41	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/09/19 14:41	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/09/19 14:41	75-09-2	
Styrene	0.91	ug/L	0.50	0.19	1		04/09/19 14:41	100-42-5	
Tetrachloroethene	1.8	ug/L	0.50	0.17	1		04/09/19 14:41	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/09/19 14:41	109-99-9	
Toluene	8.9	ug/L	0.50	0.083	1		04/09/19 14:41	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: LF-3 **Lab ID: 10469405002** Collected: 03/27/19 13:25 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.45	ug/L	0.40	0.15	1		04/09/19 14:41	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/09/19 14:41	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/09/19 14:41	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		04/09/19 14:41	75-01-4	
Xylene (Total)	1.7	ug/L	1.5	0.31	1		04/09/19 14:41	1330-20-7	
cis-1,2-Dichloroethene	1.3	ug/L	0.50	0.15	1		04/09/19 14:41	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		04/09/19 14:41	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/09/19 14:41	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/09/19 14:41	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/09/19 14:41	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		04/09/19 14:41	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/09/19 14:41	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-136		1		04/09/19 14:41	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		04/09/19 14:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		04/09/19 14:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-12 Lab ID: 10469405003 Collected: 03/27/19 15:50 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 15:19	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 15:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 15:19	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 15:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 15:19	76-13-1	
1,1-Dichloroethane	1.5	ug/L	0.50	0.17	1		04/04/19 15:19	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 15:19	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 15:19	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 15:19	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 15:19	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 15:19	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 15:19	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 15:19	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/04/19 15:19	78-87-5	
1,4-Dichlorobenzene	0.38J	ug/L	0.50	0.17	1		04/04/19 15:19	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 15:19	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 15:19	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 15:19	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 15:19	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 15:19	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 15:19	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 15:19	107-13-1	
Benzene	0.86	ug/L	0.50	0.10	1		04/04/19 15:19	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 15:19	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 15:19	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 15:19	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 15:19	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 15:19	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 15:19	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 15:19	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 15:19	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 15:19	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 15:19	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 15:19	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 15:19	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 15:19	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 15:19	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 15:19	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 15:19	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 15:19	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 15:19	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 15:19	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 15:19	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		04/04/19 15:19	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 15:19	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 15:19	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-12 **Lab ID: 10469405003** Collected: 03/27/19 15:50 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.32J	ug/L	0.40	0.15	1		04/04/19 15:19	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 15:19	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 15:19	108-05-4	
Vinyl chloride	9.7	ug/L	0.20	0.092	1		04/04/19 15:19	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 15:19	1330-20-7	
cis-1,2-Dichloroethene	8.5	ug/L	0.50	0.15	1		04/04/19 15:19	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 15:19	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 15:19	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 15:19	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 15:19	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 15:19	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 15:19	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	75-136		1		04/04/19 15:19	17060-07-0	
Toluene-d8 (S)	106	%	75-125		1		04/04/19 15:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		04/04/19 15:19	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-17 Lab ID: 10469405004 Collected: 03/27/19 16:30 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 15:43	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 15:43	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 15:43	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 15:43	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 15:43	76-13-1	
1,1-Dichloroethane	0.89	ug/L	0.50	0.17	1		04/04/19 15:43	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 15:43	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 15:43	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 15:43	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 15:43	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 15:43	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 15:43	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 15:43	107-06-2	
1,2-Dichloropropane	1.3J	ug/L	4.0	0.16	1		04/04/19 15:43	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 15:43	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 15:43	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 15:43	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 15:43	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 15:43	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 15:43	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 15:43	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 15:43	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		04/04/19 15:43	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 15:43	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 15:43	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 15:43	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 15:43	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 15:43	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 15:43	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 15:43	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 15:43	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 15:43	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 15:43	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 15:43	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 15:43	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 15:43	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 15:43	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 15:43	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 15:43	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 15:43	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 15:43	1634-04-4	
Methylene Chloride	14.6	ug/L	4.0	0.98	1		04/04/19 15:43	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 15:43	100-42-5	
Tetrachloroethene	8.9	ug/L	0.50	0.17	1		04/04/19 15:43	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 15:43	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 15:43	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-17 **Lab ID: 10469405004** Collected: 03/27/19 16:30 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	3.6	ug/L	0.40	0.15	1		04/04/19 15:43	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 15:43	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 15:43	108-05-4	
Vinyl chloride	0.43	ug/L	0.20	0.092	1		04/04/19 15:43	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 15:43	1330-20-7	
cis-1,2-Dichloroethene	25.4	ug/L	0.50	0.15	1		04/04/19 15:43	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 15:43	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 15:43	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 15:43	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 15:43	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 15:43	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 15:43	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-136		1		04/04/19 15:43	17060-07-0	
Toluene-d8 (S)	107	%	75-125		1		04/04/19 15:43	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		04/04/19 15:43	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-18 **Lab ID: 10469405005** Collected: 03/27/19 15:10 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 16:07	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 16:07	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 16:07	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 16:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 16:07	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 16:07	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 16:07	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 16:07	96-18-4	
1,2,4-Trimethylbenzene	0.53J	ug/L	1.0	0.20	1		04/04/19 16:07	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 16:07	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 16:07	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:07	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:07	107-06-2	
1,2-Dichloropropane	0.19J	ug/L	4.0	0.16	1		04/04/19 16:07	78-87-5	
1,4-Dichlorobenzene	1.8	ug/L	0.50	0.17	1		04/04/19 16:07	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 16:07	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 16:07	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 16:07	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 16:07	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 16:07	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 16:07	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 16:07	107-13-1	
Benzene	1.2	ug/L	0.50	0.10	1		04/04/19 16:07	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 16:07	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:07	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 16:07	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 16:07	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 16:07	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 16:07	56-23-5	
Chlorobenzene	0.47J	ug/L	0.50	0.17	1		04/04/19 16:07	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 16:07	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 16:07	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 16:07	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 16:07	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 16:07	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 16:07	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 16:07	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:07	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 16:07	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 16:07	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 16:07	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 16:07	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 16:07	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		04/04/19 16:07	127-18-4	
Tetrahydrofuran	16.3	ug/L	10.0	2.2	1		04/04/19 16:07	109-99-9	
Toluene	0.39J	ug/L	0.50	0.083	1		04/04/19 16:07	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-18 **Lab ID: 10469405005** Collected: 03/27/19 15:10 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.27J	ug/L	0.40	0.15	1		04/04/19 16:07	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 16:07	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 16:07	108-05-4	
Vinyl chloride	4.6	ug/L	0.20	0.092	1		04/04/19 16:07	75-01-4	
Xylene (Total)	0.57J	ug/L	1.5	0.31	1		04/04/19 16:07	1330-20-7	
cis-1,2-Dichloroethene	1.9	ug/L	0.50	0.15	1		04/04/19 16:07	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 16:07	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 16:07	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 16:07	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 16:07	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 16:07	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 16:07	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-136		1		04/04/19 16:07	17060-07-0	HS
Toluene-d8 (S)	105	%	75-125		1		04/04/19 16:07	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		04/04/19 16:07	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-20 **Lab ID: 10469405006** Collected: 03/27/19 14:30 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 16:31	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 16:31	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 16:31	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 16:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 16:31	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 16:31	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 16:31	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 16:31	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 16:31	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 16:31	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 16:31	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:31	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:31	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/04/19 16:31	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 16:31	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 16:31	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 16:31	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 16:31	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 16:31	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 16:31	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 16:31	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 16:31	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		04/04/19 16:31	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 16:31	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:31	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 16:31	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 16:31	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 16:31	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 16:31	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 16:31	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 16:31	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 16:31	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 16:31	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 16:31	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 16:31	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 16:31	74-95-3	
Dichlorodifluoromethane	0.25J	ug/L	1.0	0.23	1		04/04/19 16:31	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:31	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 16:31	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 16:31	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 16:31	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 16:31	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 16:31	100-42-5	
Tetrachloroethene	6.5	ug/L	0.50	0.17	1		04/04/19 16:31	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 16:31	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 16:31	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: MW-20 **Lab ID: 10469405006** Collected: 03/27/19 14:30 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.22J	ug/L	0.40	0.15	1		04/04/19 16:31	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 16:31	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 16:31	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		04/04/19 16:31	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 16:31	1330-20-7	
cis-1,2-Dichloroethene	0.18J	ug/L	0.50	0.15	1		04/04/19 16:31	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 16:31	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 16:31	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 16:31	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 16:31	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 16:31	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 16:31	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-136		1		04/04/19 16:31	17060-07-0	
Toluene-d8 (S)	106	%	75-125		1		04/04/19 16:31	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		04/04/19 16:31	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: #179175TripBlank **Lab ID: 10469405007** Collected: 03/27/19 00:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 13:19	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 13:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 13:19	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 13:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 13:19	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 13:19	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 13:19	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 13:19	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 13:19	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 13:19	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 13:19	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 13:19	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 13:19	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/04/19 13:19	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 13:19	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 13:19	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 13:19	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 13:19	591-78-6	
2-Propanol	91.1J	ug/L	100	11.4	1		04/04/19 13:19	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 13:19	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 13:19	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 13:19	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		04/04/19 13:19	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 13:19	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 13:19	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 13:19	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 13:19	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 13:19	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 13:19	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 13:19	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 13:19	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 13:19	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 13:19	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 13:19	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 13:19	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 13:19	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 13:19	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 13:19	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 13:19	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 13:19	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 13:19	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 13:19	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 13:19	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		04/04/19 13:19	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 13:19	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 13:19	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: #179175TripBlank **Lab ID: 10469405007** Collected: 03/27/19 00:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		04/04/19 13:19	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 13:19	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 13:19	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		04/04/19 13:19	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 13:19	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		04/04/19 13:19	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 13:19	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 13:19	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 13:19	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 13:19	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 13:19	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 13:19	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-136		1		04/04/19 13:19	17060-07-0	HS
Toluene-d8 (S)	107	%	75-125		1		04/04/19 13:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		04/04/19 13:19	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: DUP 1 **Lab ID: 10469405008** Collected: 03/27/19 16:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		04/04/19 16:54	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		04/04/19 16:54	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		04/04/19 16:54	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		04/04/19 16:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		04/04/19 16:54	76-13-1	
1,1-Dichloroethane	1.4	ug/L	0.50	0.17	1		04/04/19 16:54	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	0.50	0.16	1		04/04/19 16:54	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		04/04/19 16:54	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		04/04/19 16:54	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		04/04/19 16:54	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		04/04/19 16:54	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:54	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:54	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		04/04/19 16:54	78-87-5	
1,4-Dichlorobenzene	0.43J	ug/L	0.50	0.17	1		04/04/19 16:54	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		04/04/19 16:54	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		04/04/19 16:54	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		04/04/19 16:54	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		04/04/19 16:54	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		04/04/19 16:54	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		04/04/19 16:54	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		04/04/19 16:54	107-13-1	
Benzene	0.77	ug/L	0.50	0.10	1		04/04/19 16:54	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		04/04/19 16:54	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		04/04/19 16:54	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		04/04/19 16:54	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		04/04/19 16:54	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		04/04/19 16:54	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		04/04/19 16:54	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		04/04/19 16:54	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		04/04/19 16:54	75-00-3	
Chloroform	<0.45	ug/L	4.0	0.45	1		04/04/19 16:54	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		04/04/19 16:54	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		04/04/19 16:54	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	0.50	0.12	1		04/04/19 16:54	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		04/04/19 16:54	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		04/04/19 16:54	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		04/04/19 16:54	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		04/04/19 16:54	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	0.50	0.18	1		04/04/19 16:54	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		04/04/19 16:54	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		04/04/19 16:54	75-09-2	
Styrene	<0.19	ug/L	1.0	0.19	1		04/04/19 16:54	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		04/04/19 16:54	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		04/04/19 16:54	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		04/04/19 16:54	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Sample: DUP 1 **Lab ID: 10469405008** Collected: 03/27/19 16:00 Received: 04/03/19 09:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.33J	ug/L	0.40	0.15	1		04/04/19 16:54	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		04/04/19 16:54	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		04/04/19 16:54	108-05-4	
Vinyl chloride	9.8	ug/L	0.20	0.092	1		04/04/19 16:54	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		04/04/19 16:54	1330-20-7	
cis-1,2-Dichloroethene	8.6	ug/L	0.50	0.15	1		04/04/19 16:54	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	0.50	0.20	1		04/04/19 16:54	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		04/04/19 16:54	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		04/04/19 16:54	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		04/04/19 16:54	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	0.50	0.18	1		04/04/19 16:54	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		04/04/19 16:54	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-136		1		04/04/19 16:54	17060-07-0	
Toluene-d8 (S)	108	%	75-125		1		04/04/19 16:54	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		04/04/19 16:54	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

QC Batch: 597597 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10469405001, 10469405003, 10469405004, 10469405005, 10469405006, 10469405007, 10469405008

METHOD BLANK: 3231499 Matrix: Water
Associated Lab Samples: 10469405001, 10469405003, 10469405004, 10469405005, 10469405006, 10469405007, 10469405008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	04/04/19 11:20	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	04/04/19 11:20	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	04/04/19 11:20	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	04/04/19 11:20	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	04/04/19 11:20	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	04/04/19 11:20	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	04/04/19 11:20	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	04/04/19 11:20	
1,2,4-Trimethylbenzene	ug/L	<0.20	1.0	0.20	04/04/19 11:20	MN
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	04/04/19 11:20	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	04/04/19 11:20	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	04/04/19 11:20	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	04/04/19 11:20	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	04/04/19 11:20	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	04/04/19 11:20	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	04/04/19 11:20	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	04/04/19 11:20	
2-Hexanone	ug/L	<0.88	5.0	0.88	04/04/19 11:20	
2-Propanol	ug/L	<11.4	100	11.4	04/04/19 11:20	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	04/04/19 11:20	
Acetone	ug/L	<9.2	20.0	9.2	04/04/19 11:20	
Acrylonitrile	ug/L	<0.91	10.0	0.91	04/04/19 11:20	
Benzene	ug/L	<0.10	0.50	0.10	04/04/19 11:20	
Bromochloromethane	ug/L	<0.27	1.0	0.27	04/04/19 11:20	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	04/04/19 11:20	
Bromoform	ug/L	<0.80	4.0	0.80	04/04/19 11:20	
Bromomethane	ug/L	<1.8	4.0	1.8	04/04/19 11:20	
Carbon disulfide	ug/L	<0.078	1.0	0.078	04/04/19 11:20	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	04/04/19 11:20	
Chlorobenzene	ug/L	<0.17	0.50	0.17	04/04/19 11:20	
Chloroethane	ug/L	<0.49	1.0	0.49	04/04/19 11:20	
Chloroform	ug/L	<0.45	4.0	0.45	04/04/19 11:20	MN
Chloromethane	ug/L	<0.16	4.0	0.16	04/04/19 11:20	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	04/04/19 11:20	
cis-1,3-Dichloropropene	ug/L	<0.20	0.50	0.20	04/04/19 11:20	
Cyclohexane	ug/L	<0.54	5.0	0.54	04/04/19 11:20	N2
Dibromochloromethane	ug/L	<0.12	0.50	0.12	04/04/19 11:20	
Dibromomethane	ug/L	<0.16	1.0	0.16	04/04/19 11:20	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	04/04/19 11:20	
Ethylbenzene	ug/L	<0.14	0.50	0.14	04/04/19 11:20	
Iodomethane	ug/L	<0.82	4.0	0.82	04/04/19 11:20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10469405

METHOD BLANK: 3231499 Matrix: Water
Associated Lab Samples: 10469405001, 10469405003, 10469405004, 10469405005, 10469405006, 10469405007, 10469405008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	04/04/19 11:20	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	04/04/19 11:20	
Methylene Chloride	ug/L	<0.98	4.0	0.98	04/04/19 11:20	
n-Hexane	ug/L	<0.93	10.0	0.93	04/04/19 11:20	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	04/04/19 11:20	
Styrene	ug/L	<0.19	1.0	0.19	04/04/19 11:20	MN
Tetrachloroethene	ug/L	<0.17	0.50	0.17	04/04/19 11:20	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	04/04/19 11:20	
Toluene	ug/L	<0.083	0.50	0.083	04/04/19 11:20	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	04/04/19 11:20	
trans-1,3-Dichloropropene	ug/L	<0.18	0.50	0.18	04/04/19 11:20	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	04/04/19 11:20	
Trichloroethene	ug/L	<0.15	0.40	0.15	04/04/19 11:20	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	04/04/19 11:20	
Vinyl acetate	ug/L	<1.1	10.0	1.1	04/04/19 11:20	
Vinyl chloride	ug/L	<0.092	0.20	0.092	04/04/19 11:20	
Xylene (Total)	ug/L	<0.31	1.5	0.31	04/04/19 11:20	
1,2-Dichloroethane-d4 (S)	%	109	75-136		04/04/19 11:20	
4-Bromofluorobenzene (S)	%	105	75-125		04/04/19 11:20	
Toluene-d8 (S)	%	106	75-125		04/04/19 11:20	

LABORATORY CONTROL SAMPLE: 3231500

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	98	68-141	
1,1,1-Trichloroethane	ug/L	20	19.2	96	75-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.7	93	73-125	
1,1,2-Trichloroethane	ug/L	20	21.6	108	74-131	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.0	100	69-132	
1,1-Dichloroethane	ug/L	20	19.4	97	73-125	
1,1-Dichloroethene	ug/L	20	21.5	108	71-126	
1,2,3-Trichloropropane	ug/L	20	19.1	95	75-126	
1,2,4-Trimethylbenzene	ug/L	20	22.5	112	72-134	
1,2-Dibromo-3-chloropropane	ug/L	50	39.9	80	60-135	
1,2-Dibromoethane (EDB)	ug/L	20	20.8	104	75-129	
1,2-Dichlorobenzene	ug/L	20	21.8	109	75-129	
1,2-Dichloroethane	ug/L	20	16.7	84	75-125	
1,2-Dichloropropane	ug/L	20	20.6	103	75-125	
1,4-Dichlorobenzene	ug/L	20	20.8	104	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	469	117	72-129	
2-Butanone (MEK)	ug/L	100	73.1	73	59-144	
2-Hexanone	ug/L	100	91.9	92	73-134	
2-Propanol	ug/L	200	195	97	68-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.7	92	62-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

LABORATORY CONTROL SAMPLE: 3231500

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	99.8	100	60-137	
Acrylonitrile	ug/L	200	169	85	75-129	
Benzene	ug/L	20	19.7	98	73-125	
Bromochloromethane	ug/L	20	18.8	94	75-135	
Bromodichloromethane	ug/L	20	20.3	101	75-125	
Bromoform	ug/L	20	18.4	92	67-136	
Bromomethane	ug/L	20	13.3	66	30-150	
Carbon disulfide	ug/L	20	30.5	152	47-137	CH,L3
Carbon tetrachloride	ug/L	20	19.7	98	75-125	
Chlorobenzene	ug/L	20	20.4	102	75-125	
Chloroethane	ug/L	20	16.6	83	63-136	
Chloroform	ug/L	20	18.1	91	73-128	
Chloromethane	ug/L	20	17.4	87	55-130	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.6	98	74-125	
Cyclohexane	ug/L	100	120	120	67-125	N2
Dibromochloromethane	ug/L	20	19.5	98	75-125	
Dibromomethane	ug/L	20	20.5	102	75-125	
Dichlorodifluoromethane	ug/L	20	18.3	92	63-132	
Ethylbenzene	ug/L	20	22.7	114	75-125	
Iodomethane	ug/L	20	20.8	104	72-125	
Isopropylbenzene (Cumene)	ug/L	20	22.4	112	75-125	
Methyl-tert-butyl ether	ug/L	20	17.3	86	75-125	
Methylene Chloride	ug/L	20	20.1	100	70-125	
n-Hexane	ug/L	50	82.9	166	51-150	CH,L3
n-Propylbenzene	ug/L	20	25.7	128	73-127	L3
Styrene	ug/L	20	21.0	105	75-125	
Tetrachloroethene	ug/L	20	22.8	114	74-125	
Tetrahydrofuran	ug/L	200	216	108	64-138	
Toluene	ug/L	20	21.4	107	74-125	
trans-1,2-Dichloroethene	ug/L	20	22.1	110	68-128	
trans-1,3-Dichloropropene	ug/L	20	21.2	106	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	43.3	87	60-127	
Trichloroethene	ug/L	20	23.1	116	75-127	
Trichlorofluoromethane	ug/L	20	17.9	89	72-133	
Vinyl acetate	ug/L	20	16.4	82	61-129	
Vinyl chloride	ug/L	20	17.7	89	75-128	
Xylene (Total)	ug/L	60	73.5	122	75-125	LS
1,2-Dichloroethane-d4 (S)	%			91	75-136	
4-Bromofluorobenzene (S)	%			100	75-125	
Toluene-d8 (S)	%			100	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Parameter	Units	10469162005		3231501		3231502		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
1,1,1,2-Tetrachloroethane	ug/L	ND	400	400	417	399	104	100	75-140	4	30			
1,1,1-Trichloroethane	ug/L	ND	400	400	448	432	112	108	74-136	4	30			
1,1,2,2-Tetrachloroethane	ug/L	ND	400	400	418	428	105	107	66-134	2	30			
1,1,2-Trichloroethane	ug/L	ND	400	400	456	431	114	108	75-126	6	30			
1,1,2-Trichlorotrifluoroethane	ug/L	ND	400	400	514	456	128	114	65-146	12	30			
1,1-Dichloroethane	ug/L	ND	400	400	500	445	125	111	68-132	12	30			
1,1-Dichloroethene	ug/L	ND	400	400	562	494	140	124	66-139	13	30	M1		
1,2,3-Trichloropropane	ug/L	ND	400	400	407	433	102	108	69-128	6	30			
1,2,4-Trimethylbenzene	ug/L	ND	400	400	465	448	116	112	71-133	4	30			
1,2-Dibromo-3-chloropropane	ug/L	ND	1000	1000	910	987	91	99	54-138	8	30			
1,2-Dibromoethane (EDB)	ug/L	ND	400	400	451	441	113	110	68-125	2	30			
1,2-Dichlorobenzene	ug/L	ND	400	400	454	436	113	109	74-136	4	30			
1,2-Dichloroethane	ug/L	ND	400	400	421	411	105	103	68-125	2	30			
1,2-Dichloropropane	ug/L	ND	400	400	429	452	107	113	67-125	5	30			
1,4-Dichlorobenzene	ug/L	ND	400	400	434	414	109	104	74-126	5	30			
1,4-Dioxane (p-Dioxane)	ug/L	ND	8000	8000	9320	8700	116	109	68-125	7	30			
2-Butanone (MEK)	ug/L	ND	2000	2000	1890	2060	94	103	54-144	9	30			
2-Hexanone	ug/L	ND	2000	2000	2150	2220	107	111	58-137	3	30			
2-Propanol	ug/L	ND	4000	4000	5170	4200	125	101	40-150	21	30			
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2000	2000	2150	2240	108	112	60-129	4	30			
Acetone	ug/L	ND	2000	2000	1730	1630	86	82	62-132	6	30			
Acrylonitrile	ug/L	ND	4000	4000	4790	4510	120	113	68-125	6	30			
Benzene	ug/L	ND	400	400	477	466	119	116	68-125	2	30			
Bromochloromethane	ug/L	ND	400	400	473	441	118	110	66-143	7	30			
Bromodichloromethane	ug/L	ND	400	400	426	447	106	112	74-125	5	30			
Bromoform	ug/L	ND	400	400	394	399	99	100	64-134	1	30			
Bromomethane	ug/L	ND	400	400	339	279	85	70	30-150	19	30			
Carbon disulfide	ug/L	ND	400	400	758	637	190	159	43-147	17	30	CH,M0		
Carbon tetrachloride	ug/L	ND	400	400	447	444	112	111	71-143	1	30			
Chlorobenzene	ug/L	ND	400	400	428	413	107	103	75-125	4	30			
Chloroethane	ug/L	ND	400	400	385	349	96	87	75-129	10	30			
Chloroform	ug/L	ND	400	400	439	429	110	107	66-132	2	30			
Chloromethane	ug/L	ND	400	400	402	375	101	94	53-137	7	30			
cis-1,2-Dichloroethene	ug/L	ND	400	400	485	439	121	110	67-133	10	30			
cis-1,3-Dichloropropene	ug/L	ND	400	400	399	421	100	105	66-125	5	30			
Cyclohexane	ug/L	ND	2000	2000	2820	2640	141	132	74-146	6	30	N2		
Dibromochloromethane	ug/L	ND	400	400	412	399	103	100	62-132	3	30			
Dibromomethane	ug/L	ND	400	400	417	452	104	113	67-125	8	30			
Dichlorodifluoromethane	ug/L	ND	400	400	403	391	101	98	71-142	3	30			
Ethylbenzene	ug/L	ND	400	400	476	452	119	113	74-126	5	30			
Iodomethane	ug/L	ND	400	400	540	487	135	122	70-139	10	30			
Isopropylbenzene (Cumene)	ug/L	ND	400	400	460	441	115	110	74-130	4	30			
Methyl-tert-butyl ether	ug/L	ND	400	400	492	450	123	113	65-131	9	30			
Methylene Chloride	ug/L	ND	400	400	546	461	137	115	57-125	17	30	M1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Parameter	Units	10469162005		3231501		3231502		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
n-Hexane	ug/L	ND	1000	1000	1560	1400	156	140	30-150	11	30	CH,M0	
n-Propylbenzene	ug/L	ND	400	400	526	506	132	127	67-138	4	30		
Styrene	ug/L	ND	400	400	451	426	113	107	72-125	6	30		
Tetrachloroethene	ug/L	ND	400	400	465	463	116	116	72-129	1	30		
Tetrahydrofuran	ug/L	ND	4000	4000	3810	4180	95	104	66-128	9	30		
Toluene	ug/L	ND	400	400	457	432	113	107	73-125	6	30		
trans-1,2-Dichloroethene	ug/L	ND	400	400	575	483	144	121	62-137	17	30	M1	
trans-1,3-Dichloropropene	ug/L	ND	400	400	458	443	115	111	61-136	3	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	1000	1000	960	1000	96	100	45-128	4	30		
Trichloroethene	ug/L	ND	400	400	481	437	120	109	74-132	10	30		
Trichlorofluoromethane	ug/L	ND	400	400	462	407	115	102	75-139	13	30		
Vinyl acetate	ug/L	ND	400	400	467	432	117	108	51-135	8	30		
Vinyl chloride	ug/L	ND	400	400	426	387	106	97	68-146	10	30		
Xylene (Total)	ug/L	ND	1200	1200	1560	1480	130	123	67-137	5	30	MS	
1,2-Dichloroethane-d4 (S)	%						109	111	75-136				
4-Bromofluorobenzene (S)	%						102	101	75-125				
Toluene-d8 (S)	%						101	101	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

QC Batch: 598460

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV LL Water

Associated Lab Samples: 10469405002

METHOD BLANK: 3235658

Matrix: Water

Associated Lab Samples: 10469405002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	1.0	0.20	04/09/19 11:46	MN
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	04/09/19 11:46	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	04/09/19 11:46	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	04/09/19 11:46	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	04/09/19 11:46	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	04/09/19 11:46	
1,1-Dichloroethene	ug/L	<0.16	0.50	0.16	04/09/19 11:46	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	04/09/19 11:46	
1,2,4-Trimethylbenzene	ug/L	<0.20	0.50	0.20	04/09/19 11:46	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	04/09/19 11:46	
1,2-Dibromoethane (EDB)	ug/L	<0.24	1.0	0.24	04/09/19 11:46	MN
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	04/09/19 11:46	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	04/09/19 11:46	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	04/09/19 11:46	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	04/09/19 11:46	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	04/09/19 11:46	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	04/09/19 11:46	
2-Hexanone	ug/L	<0.88	5.0	0.88	04/09/19 11:46	
2-Propanol	ug/L	<11.4	100	11.4	04/09/19 11:46	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	04/09/19 11:46	
Acetone	ug/L	<9.2	20.0	9.2	04/09/19 11:46	
Acrylonitrile	ug/L	<0.91	10.0	0.91	04/09/19 11:46	
Benzene	ug/L	<0.10	0.50	0.10	04/09/19 11:46	
Bromochloromethane	ug/L	<0.27	1.0	0.27	04/09/19 11:46	
Bromodichloromethane	ug/L	<0.22	1.0	0.22	04/09/19 11:46	MN
Bromoform	ug/L	<0.80	4.0	0.80	04/09/19 11:46	
Bromomethane	ug/L	<1.8	4.0	1.8	04/09/19 11:46	
Carbon disulfide	ug/L	<0.078	1.0	0.078	04/09/19 11:46	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	04/09/19 11:46	
Chlorobenzene	ug/L	<0.17	0.50	0.17	04/09/19 11:46	
Chloroethane	ug/L	<0.49	1.0	0.49	04/09/19 11:46	
Chloroform	ug/L	<0.45	1.0	0.45	04/09/19 11:46	
Chloromethane	ug/L	<0.16	4.0	0.16	04/09/19 11:46	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	04/09/19 11:46	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	04/09/19 11:46	MN
Cyclohexane	ug/L	<0.54	5.0	0.54	04/09/19 11:46	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	04/09/19 11:46	MN
Dibromomethane	ug/L	<0.16	1.0	0.16	04/09/19 11:46	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	04/09/19 11:46	
Ethylbenzene	ug/L	<0.14	0.50	0.14	04/09/19 11:46	
Iodomethane	ug/L	<0.82	4.0	0.82	04/09/19 11:46	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

METHOD BLANK: 3235658

Matrix: Water

Associated Lab Samples: 10469405002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	0.50	0.18	04/09/19 11:46	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	04/09/19 11:46	
Methylene Chloride	ug/L	<0.98	4.0	0.98	04/09/19 11:46	
n-Hexane	ug/L	<0.93	10.0	0.93	04/09/19 11:46	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	04/09/19 11:46	
Styrene	ug/L	<0.19	0.50	0.19	04/09/19 11:46	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	04/09/19 11:46	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	04/09/19 11:46	
Toluene	ug/L	<0.083	0.50	0.083	04/09/19 11:46	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	04/09/19 11:46	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	04/09/19 11:46	MN
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	04/09/19 11:46	
Trichloroethene	ug/L	<0.15	0.40	0.15	04/09/19 11:46	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	04/09/19 11:46	
Vinyl acetate	ug/L	<1.1	10.0	1.1	04/09/19 11:46	
Vinyl chloride	ug/L	<0.092	0.20	0.092	04/09/19 11:46	
Xylene (Total)	ug/L	<0.31	1.5	0.31	04/09/19 11:46	
1,2-Dichloroethane-d4 (S)	%	100	75-136		04/09/19 11:46	
4-Bromofluorobenzene (S)	%	100	75-125		04/09/19 11:46	
Toluene-d8 (S)	%	98	75-125		04/09/19 11:46	

LABORATORY CONTROL SAMPLE: 3235659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.2	106	68-141	
1,1,1-Trichloroethane	ug/L	20	20.0	100	75-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.6	108	73-125	
1,1,2-Trichloroethane	ug/L	20	21.7	109	74-131	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.2	91	69-132	
1,1-Dichloroethane	ug/L	20	18.9	94	73-125	
1,1-Dichloroethene	ug/L	20	19.1	96	71-126	
1,2,3-Trichloropropane	ug/L	20	22.0	110	75-126	
1,2,4-Trimethylbenzene	ug/L	20	20.6	103	72-134	
1,2-Dibromo-3-chloropropane	ug/L	50	58.0	116	60-135	
1,2-Dibromoethane (EDB)	ug/L	20	19.9	100	75-129	
1,2-Dichlorobenzene	ug/L	20	20.6	103	75-129	
1,2-Dichloroethane	ug/L	20	19.9	100	75-125	
1,2-Dichloropropane	ug/L	20	20.3	101	75-125	
1,4-Dichlorobenzene	ug/L	20	20.7	104	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	505	126	72-129	
2-Butanone (MEK)	ug/L	100	126	126	59-144	
2-Hexanone	ug/L	100	126	126	73-134	
2-Propanol	ug/L	200	199	99	68-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	62-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

LABORATORY CONTROL SAMPLE: 3235659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	108	108	60-137	
Acrylonitrile	ug/L	200	187	93	75-129	
Benzene	ug/L	20	18.7	94	73-125	
Bromochloromethane	ug/L	20	18.5	93	75-135	
Bromodichloromethane	ug/L	20	20.7	103	75-125	
Bromoform	ug/L	20	21.8	109	67-136	
Bromomethane	ug/L	20	16.3	82	30-150	
Carbon disulfide	ug/L	20	15.5	78	47-137	
Carbon tetrachloride	ug/L	20	20.9	105	75-125	
Chlorobenzene	ug/L	20	20.8	104	75-125	
Chloroethane	ug/L	20	20.9	105	63-136	
Chloroform	ug/L	20	19.5	98	73-128	
Chloromethane	ug/L	20	18.5	93	55-130	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.2	101	74-125	
Cyclohexane	ug/L	100	90.2	90	67-125	N2
Dibromochloromethane	ug/L	20	21.6	108	75-125	
Dibromomethane	ug/L	20	19.9	100	75-125	
Dichlorodifluoromethane	ug/L	20	19.0	95	63-132	
Ethylbenzene	ug/L	20	20.0	100	75-125	
Iodomethane	ug/L	20	16.7	83	72-125	
Isopropylbenzene (Cumene)	ug/L	20	21.1	105	75-125	
Methyl-tert-butyl ether	ug/L	20	19.5	97	75-125	
Methylene Chloride	ug/L	20	17.1	85	70-125	
n-Hexane	ug/L	50	39.7	79	51-150	
n-Propylbenzene	ug/L	20	20.6	103	73-127	
Styrene	ug/L	20	21.8	109	75-125	
Tetrachloroethene	ug/L	20	20.3	102	74-125	
Tetrahydrofuran	ug/L	200	212	106	64-138	
Toluene	ug/L	20	20.0	100	74-125	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	68-128	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	47.7	95	60-127	
Trichloroethene	ug/L	20	20.7	104	75-127	
Trichlorofluoromethane	ug/L	20	21.8	109	72-133	
Vinyl acetate	ug/L	20	20.3	101	61-129	
Vinyl chloride	ug/L	20	20.4	102	75-128	
Xylene (Total)	ug/L	60	62.1	103	75-125	
1,2-Dichloroethane-d4 (S)	%			102	75-136	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			101	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Parameter	Units	10469890001		3235660		3235661		% Rec	% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec								
1,1,1,2-Tetrachloroethane	ug/L	<0.20	20	20	20.7	20.0	103	100	75-140	3	30				
1,1,1-Trichloroethane	ug/L	<0.14	20	20	21.4	20.4	107	102	74-136	5	30				
1,1,2,2-Tetrachloroethane	ug/L	<0.17	20	20	20.4	20.4	102	102	66-134	0	30				
1,1,2-Trichloroethane	ug/L	<0.18	20	20	20.7	20.5	103	102	75-126	1	30				
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	20	20	18.9	18.6	95	93	65-146	2	30				
1,1-Dichloroethane	ug/L	<0.17	20	20	19.9	18.8	100	94	68-132	6	30				
1,1-Dichloroethene	ug/L	<0.16	20	20	20.0	19.0	100	95	66-139	5	30				
1,2,3-Trichloropropane	ug/L	<0.26	20	20	20.8	21.1	104	106	69-128	2	30				
1,2,4-Trimethylbenzene	ug/L	<0.20	20	20	18.8	19.3	94	97	71-133	3	30				
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	53.5	54.7	107	109	54-138	2	30				
1,2-Dibromoethane (EDB)	ug/L	<0.24	20	20	19.1	18.7	95	94	68-125	2	30				
1,2-Dichlorobenzene	ug/L	<0.14	20	20	19.0	19.3	95	97	74-136	2	30				
1,2-Dichloroethane	ug/L	<0.22	20	20	19.0	18.1	95	91	68-125	5	30				
1,2-Dichloropropane	ug/L	<0.16	20	20	19.8	19.0	99	95	67-125	4	30				
1,4-Dichlorobenzene	ug/L	<0.17	20	20	18.7	18.9	94	94	74-126	1	30				
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	400	400	439	327	110	82	68-125	29	30				
2-Butanone (MEK)	ug/L	<0.99	100	100	84.0	91.8	84	92	54-144	9	30				
2-Hexanone	ug/L	<0.88	100	100	102	98.7	102	99	58-137	3	30				
2-Propanol	ug/L	28.2J	200	200	239	193	105	83	40-150	21	30				
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	100	100	101	104	101	104	60-129	2	30				
Acetone	ug/L	<9.2	100	100	82.4	76.8	79	73	62-132	7	30				
Acrylonitrile	ug/L	<0.91	200	200	182	180	91	90	68-125	1	30				
Benzene	ug/L	<0.10	20	20	19.1	18.2	95	91	68-125	5	30				
Bromochloromethane	ug/L	<0.27	20	20	18.0	17.3	90	87	66-143	4	30				
Bromodichloromethane	ug/L	<0.22	20	20	20.1	19.6	101	98	74-125	3	30				
Bromoform	ug/L	<0.80	20	20	20.3	20.4	102	102	64-134	0	30				
Bromomethane	ug/L	<1.8	20	20	16.4	17.4	82	87	30-150	6	30				
Carbon disulfide	ug/L	<0.078	20	20	16.3	15.6	81	78	43-147	5	30				
Carbon tetrachloride	ug/L	<0.19	20	20	21.9	20.9	109	105	71-143	4	30				
Chlorobenzene	ug/L	<0.17	20	20	20.4	20.0	102	100	75-125	2	30				
Chloroethane	ug/L	<0.49	20	20	19.6	21.4	98	107	75-129	9	30				
Chloroform	ug/L	<0.45	20	20	19.2	18.5	96	92	66-132	4	30				
Chloromethane	ug/L	<0.16	20	20	17.7	18.6	89	93	53-137	5	30				
cis-1,2-Dichloroethene	ug/L	<0.15	20	20	21.0	20.3	105	102	67-133	3	30				
cis-1,3-Dichloropropene	ug/L	<0.20	20	20	19.2	18.8	96	94	66-125	3	30				
Cyclohexane	ug/L	<0.54	100	100	92.5	92.0	93	92	74-146	1	30 N2				
Dibromochloromethane	ug/L	<0.12	20	20	20.2	20.2	101	101	62-132	0	30				
Dibromomethane	ug/L	<0.16	20	20	19.5	18.8	97	94	67-125	4	30				
Dichlorodifluoromethane	ug/L	<0.23	20	20	18.7	20.1	94	101	71-142	7	30				
Ethylbenzene	ug/L	<0.14	20	20	19.7	19.5	99	98	74-126	1	30				
Iodomethane	ug/L	<0.82	20	20	17.2	16.0	86	80	70-139	7	30				
Isopropylbenzene (Cumene)	ug/L	<0.18	20	20	20.1	20.5	101	103	74-130	2	30				
Methyl-tert-butyl ether	ug/L	<0.16	20	20	18.8	18.2	94	91	65-131	4	30				
Methylene Chloride	ug/L	<0.98	20	20	17.1	16.7	84	82	57-125	2	30				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Parameter	Units	10469890001		3235660		3235661		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
n-Hexane	ug/L	<0.93	50	50	42.1	37.9	84	76	30-150	10	30		
n-Propylbenzene	ug/L	<0.10	20	20	19.2	19.7	96	99	67-138	3	30		
Styrene	ug/L	<0.19	20	20	20.7	20.5	103	102	72-125	1	30		
Tetrachloroethene	ug/L	<0.17	20	20	20.1	20.0	100	100	72-129	1	30		
Tetrahydrofuran	ug/L	<2.2	200	200	202	196	101	98	66-128	3	30		
Toluene	ug/L	0.17J	20	20	20.3	19.5	100	97	73-125	4	30		
trans-1,2-Dichloroethene	ug/L	<0.12	20	20	19.3	18.2	96	91	62-137	5	30		
trans-1,3-Dichloropropene	ug/L	<0.18	20	20	19.8	19.1	99	96	61-136	3	30		
trans-1,4-Dichloro-2-butene	ug/L	<2.0	50	50	43.8	45.8	88	92	45-128	4	30		
Trichloroethene	ug/L	<0.15	20	20	21.9	20.6	109	103	74-132	6	30		
Trichlorofluoromethane	ug/L	<0.23	20	20	21.0	22.7	105	114	75-139	8	30		
Vinyl acetate	ug/L	<1.1	20	20	19.5	19.3	97	97	51-135	1	30		
Vinyl chloride	ug/L	<0.092	20	20	19.8	21.0	99	105	68-146	5	30		
Xylene (Total)	ug/L	<0.31	60	60	60.3	59.0	100	98	67-137	2	30		
1,2-Dichloroethane-d4 (S)	%						102	100	75-136				
4-Bromofluorobenzene (S)	%						98	99	75-125				
Toluene-d8 (S)	%						100	102	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10469405

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

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

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

LS Analyte recovery in the laboratory control sample (LCS) was outside QC limits for one or more of the constituent analytes used in the calculated result.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10469405

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10469405001	LF-2	EPA 8260B	597597		
10469405002	LF-3	EPA 8260B	598460		
10469405003	MW-12	EPA 8260B	597597		
10469405004	MW-17	EPA 8260B	597597		
10469405005	MW-18	EPA 8260B	597597		
10469405006	MW-20	EPA 8260B	597597		
10469405007	#179175TripBlank	EPA 8260B	597597		
10469405008	DUP 1	EPA 8260B	597597		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CHAIN-OF-CUSTODY / Analytical Request Document

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



Section A
 Required Client Information:
 Company: **TetraTech**
 Address: **851 Bridger Dr. Ste 6 Bozeman MT 59717**
 Email To: **marie.pearson@tetratech.com**
 Phone: **406.459.4169** Fax:
 Requesting Due Date/TAT: **stay w/ia holding time**

Section B
 Required Project Information:
 Report To:
 Copy To:
 Project Name: **Bozeman Landfill**
 Project Number: **114-710326 D.200**

Section C
 Invoice Information:
 Attention: **Bob Lloyd**
 Company Name: **tetratech**
 Address:
 Pace Quote Reference:
 Pace Project Manager:
 Pace Profile #:

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
 STATE:

Section D
 Required Client Information
 SAMPLE ID
 (A-Z, 0-9 / -)
 Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

NO# : 10469405

ITEM #	MATRIX CODE	MATRIX TYPE (G=GRAB C=COMP)	DATE	TIME	DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on	Custody	Sealed Cooler	Samples Intact	
1	LF-2		3/27	1400														
2	LF-3		3/27	1325														
3	MW-12			1550														
4	MW-17			1630														
5	MW-18			1510														
6	MW-20			1430														
7	#179175 Trip Blank		10/3/18	-														

Matrix Codes:
 DW Drinking Water, WT Waste Water, P Product, SL Soil/Solid, OL Oil, WP Wipe, AR Air, TS Tissue, OT Other

COLLECTED: COMPOSITE START, COMPOSITE END/GRAB

DATE TIME DATE TIME

DATE TIME DATE TIME

DATE TIME DATE TIME

DATE TIME DATE TIME

ADDITIONAL COMMENTS
 Please analyze w/ in holding time

RELINQUISHED BY / AFFILIATION
 Mark Pearson / FTI 4/2/19 1600 Belgrade Fed Ex
 Jennifer Johnson Pace 4/3/19 9:40 1.8

ACCEPTED BY / AFFILIATION
 Mark Pearson

DATE SIGNED (MM/DD/YYYY)
 4/2/19

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Mark Pearson
 SIGNATURE of SAMPLER: Mark Pearson

Temp in °C
 Received on

Custody
 Sealed Cooler

Samples Intact

Sample Condition Upon Receipt **Client Name:** Tetra Tech **Project #:** **WO#: 10469405**

Courier: Fed Ex UPS USPS Client
 Pace Speedee Commercial See Exception

Tracking Number: 7748 6657 6792

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Biological Tissue Frozen?** Yes No N/A

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

Thermometer: G87A9155100842 G87A9170600254 **Type of Ice:** Wet Blue None Dry Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** _____ °C **Average Corrected Temp (no temp blank only):** 1.8 °C See Exceptions

Correction Factor: true **Cooler Temp Corrected w/temp blank:** _____ °C

USDA Regulated Soil: (N/A, water sample/Other: _____) **Date/Initials of Person Examining Contents:** JJ 4/3/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present and Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Field Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. If no, write ID/Date/Time on Container Below: <u>Received 3 additional V69U labeled</u> See Exception <input type="checkbox"/>
Is sufficient information available to reconcile the samples to the COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>DUP 1 3/27/19 16:00</u>
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other	12. Sample #
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No See Exception <input type="checkbox"/>
(HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions (VOA) Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No See Exception <input type="checkbox"/>
Headspace in VOA Vials (greater than 6mm)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. See Exception <input type="checkbox"/>
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. See Exception <input type="checkbox"/>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): <u>179175</u>

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** Yes No

Comments/Resolution: _____

Project Manager Review: Bundy Fary **Date:** 4/3/19

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).



During sample triage, this form is to be placed in each cooler that arrives above 6.0 degrees Celsius

SCUR Exceptions:

Workorder #:

Out of Temp Sample IDs	Container Type	# of Containers	PM Notified? <input type="checkbox"/> Yes <input type="checkbox"/> No																		
			If yes, indicate who was contacted/date/time. If no, indicate reason why.																		
			Multiple Cooler Project? <input type="checkbox"/> Yes <input type="checkbox"/> No If you answered yes, fill out information to the left.																		
			<table border="1"> <thead> <tr> <th colspan="3">No Temp Blank</th> </tr> <tr> <th>Read Temp</th> <th>Corrected Temp</th> <th>Average Temp</th> </tr> </thead> <tbody> <tr> <td>1.3</td> <td>1.3</td> <td>1.8</td> </tr> <tr> <td>1.2</td> <td>1.2</td> <td></td> </tr> <tr> <td>2.6</td> <td>2.4</td> <td></td> </tr> <tr> <td>1.9</td> <td>1.9</td> <td></td> </tr> </tbody> </table>	No Temp Blank			Read Temp	Corrected Temp	Average Temp	1.3	1.3	1.8	1.2	1.2		2.6	2.4		1.9	1.9	
No Temp Blank																					
Read Temp	Corrected Temp	Average Temp																			
1.3	1.3	1.8																			
1.2	1.2																				
2.6	2.4																				
1.9	1.9																				

Other Issues

Issue Type:	Container Type	# of Containers
Sample ID		

Tracking Number	

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition? <input type="checkbox"/> Yes <input type="checkbox"/> No	Initials
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	
								<input type="checkbox"/> Yes <input type="checkbox"/> No	



Sample ID	Headspace greater than 6mm	Headspace less than 6mm	No Headspace	Total Vials	Sediment Present?
LF-2	0	1	2	3	Y
LF-3	0	0	3	3	Y
MW-12	0	3	0	3	Y
MW-17	0	0	3	3	Y
MW-18	3	0	0	3	Y
MW-20	0	3	0	3	Y
Trip Blank	2	0	0	2	Y
DUP 1	0	1	2	3	Y

June 28, 2019

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

RE: Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10479716

Dear Mark Pearson:

Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC 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,



Beverly Faraday
beverly.faraday@pacelabs.com
(406) 384-0559
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Montana Certification IDs

150 N. 9th Street, Billings, MT 59101
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
Washington Department of Ecology #: C993
Nevada Certificate #: MT00012

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10479716001	LF-2	Water	06/12/19 11:50	06/18/19 09:45
10479716002	LF-3	Water	06/12/19 12:50	06/18/19 09:45
10479716003	MW-4	Water	06/12/19 14:30	06/18/19 09:45
10479716004	MW-5	Water	06/10/19 11:20	06/18/19 09:45
10479716005	MW-6	Water	06/13/19 11:30	06/18/19 09:45
10479716006	MW-6B	Water	06/13/19 10:40	06/18/19 09:45
10479716007	MW-7A	Water	06/10/19 12:30	06/18/19 09:45
10479716008	MW-7B	Water	06/10/19 12:45	06/18/19 09:45
10479716009	MW-8A	Water	06/12/19 15:40	06/18/19 09:45
10479716010	MW-8B	Water	06/12/19 16:40	06/18/19 09:45
10479716011	MW-8C	Water	06/12/19 17:00	06/18/19 09:45
10479716012	MW-9A	Water	06/10/19 14:20	06/18/19 09:45
10479716013	MW-9B	Water	06/10/19 14:30	06/18/19 09:45
10479716014	MW-10	Water	06/12/19 10:50	06/18/19 09:45
10479716015	MW-11	Water	06/10/19 15:20	06/18/19 09:45
10479716016	MW-12	Water	06/10/19 15:50	06/18/19 09:45
10479716017	MW-13	Water	06/10/19 13:30	06/18/19 09:45
10479716018	MW-15	Water	06/10/19 11:40	06/18/19 09:45
10479716019	MW-17	Water	06/13/19 13:00	06/18/19 09:45
10479716020	MW-18	Water	06/10/19 17:00	06/18/19 09:45
10479716021	MW-19	Water	06/12/19 13:30	06/18/19 09:45
10479716022	MW-20	Water	06/13/19 14:50	06/18/19 09:45
10479716023	MW-24	Water	06/13/19 09:40	06/18/19 09:45
10479716024	MW-27	Water	06/13/19 13:40	06/18/19 09:45
10479716025	Mclhattan Seep	Water	06/12/19 11:00	06/18/19 09:45
10479716026	Valley View Vet Well	Water	06/12/19 10:15	06/18/19 09:45
10479716027	DUP1	Water	06/10/19 13:40	06/18/19 09:45
10479716028	DUP2	Water	06/10/19 17:30	06/18/19 09:45
10479716029	DUP3	Water	06/13/19 11:30	06/18/19 09:45
10479716030	TRIP BLANK 1	Water	06/10/19 00:00	06/18/19 09:45
10479716031	TRIP BLANK 2	Water	06/10/19 00:00	06/18/19 09:45

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10479716001	LF-2	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716002	LF-3	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716003	MW-4	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716004	MW-5	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716005	MW-6	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716006	MW-6B	EPA 8260B	DS2	61	PASI-M
10479716007	MW-7A	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716008	MW-7B	EPA 8260B	DS2	61	PASI-M
10479716009	MW-8A	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716010	MW-8B	EPA 8260B	DS2	61	PASI-M
10479716011	MW-8C	EPA 8260B	DS2	61	PASI-M
10479716012	MW-9A	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716013	MW-9B	EPA 8260B	DS2	61	PASI-M
10479716014	MW-10	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716015	MW-11	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716016	MW-12	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716017	MW-13	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716018	MW-15	EPA 8260B	DS2	61	PASI-M
		EPA 353.2	KP2	1	PASI-MT
10479716019	MW-17	EPA 8260B	DS2	61	PASI-M
10479716020	MW-18	EPA 8260B	DS2	61	PASI-M
10479716021	MW-19	EPA 8260B	DS2	61	PASI-M
10479716022	MW-20	EPA 8260B	DS2	61	PASI-M
10479716023	MW-24	EPA 8260B	DS2	61	PASI-M
10479716024	MW-27	EPA 8260B	DS2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

SAMPLE ANALYTE COUNT

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10479716025	Mclhattan Seep	EPA 353.2	KP2	1	PASI-MT
		EPA 8260B	DS2	61	PASI-M
10479716026	Valley View Vet Well	EPA 353.2	KP2	1	PASI-MT
		EPA 8260B	DS2	61	PASI-M
10479716027	DUP1	EPA 8260B	DS2	61	PASI-M
10479716028	DUP2	EPA 353.2	KP2	1	PASI-MT
		EPA 8260B	DS2	61	PASI-M
10479716029	DUP3	EPA 8260B	DS2	61	PASI-M
10479716030	TRIP BLANK 1	EPA 353.2	KP2	1	PASI-MT
		EPA 8260B	DS2	61	PASI-M
10479716031	TRIP BLANK 2	EPA 8260B	DS2	61	PASI-M

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

General Information:

31 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

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: 614038

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

- LCS (Lab ID: 3317449)
 - 2-Hexanone
 - Acetone
- MS (Lab ID: 3317451)
 - 2-Hexanone
 - Acetone
- MSD (Lab ID: 3317452)
 - 2-Hexanone
 - Acetone

QC Batch: 615008

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

- LCS (Lab ID: 3322904)
 - Acetone
- MS (Lab ID: 3322905)
 - Acetone
- MSD (Lab ID: 3322906)
 - Acetone

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.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

QC Batch: 614038

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 3317449)
 - 2-Hexanone

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3317449)
 - Acetone

QC Batch: 615008

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3322904)
 - Acetone

QC Batch: 615092

L3: Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

- LCS (Lab ID: 3323289)
 - Carbon tetrachloride

Matrix Spikes:

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

QC Batch: 614038

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10479716004

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

- MS (Lab ID: 3317451)
 - 1,1-Dichloroethene
 - Carbon disulfide
 - Cyclohexane
 - Iodomethane
 - trans-1,2-Dichloroethene
- MSD (Lab ID: 3317452)
 - 1,1-Dichloroethene
 - Carbon disulfide
 - Cyclohexane
 - Iodomethane

QC Batch: 615092

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10480450002

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

- MS (Lab ID: 3323290)
 - Chloroethane
- MSD (Lab ID: 3323291)
 - Chloroethane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

Additional Comments:

Analyte Comments:

QC Batch: 614038

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3317448)
 - Cyclohexane
- DUP1 (Lab ID: 10479716027)
 - Cyclohexane
- DUP2 (Lab ID: 10479716028)
 - Cyclohexane
- LCS (Lab ID: 3317449)
 - Cyclohexane
- LF-2 (Lab ID: 10479716001)
 - Cyclohexane
- LF-3 (Lab ID: 10479716002)
 - Cyclohexane
- MS (Lab ID: 3317451)
 - Cyclohexane
- MSD (Lab ID: 3317452)
 - Cyclohexane
- MW-11 (Lab ID: 10479716015)
 - Cyclohexane
- MW-12 (Lab ID: 10479716016)
 - Cyclohexane
- MW-13 (Lab ID: 10479716017)
 - Cyclohexane
- MW-15 (Lab ID: 10479716018)
 - Cyclohexane
- MW-18 (Lab ID: 10479716020)
 - Cyclohexane
- MW-4 (Lab ID: 10479716003)
 - Cyclohexane
- MW-5 (Lab ID: 10479716004)
 - Cyclohexane
- MW-7A (Lab ID: 10479716007)
 - Cyclohexane
- MW-7B (Lab ID: 10479716008)
 - Cyclohexane
- MW-8A (Lab ID: 10479716009)
 - Cyclohexane
- MW-9A (Lab ID: 10479716012)
 - Cyclohexane
- MW-9B (Lab ID: 10479716013)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

Analyte Comments:

QC Batch: 614038

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- TRIP BLANK 1 (Lab ID: 10479716030)
 - Cyclohexane
- TRIP BLANK 2 (Lab ID: 10479716031)
 - Cyclohexane

QC Batch: 615008

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3322903)
 - Cyclohexane
- LCS (Lab ID: 3322904)
 - Cyclohexane
- MS (Lab ID: 3322905)
 - Cyclohexane
- MSD (Lab ID: 3322906)
 - Cyclohexane
- MW-10 (Lab ID: 10479716014)
 - Cyclohexane
- MW-19 (Lab ID: 10479716021)
 - Cyclohexane
- MW-8B (Lab ID: 10479716010)
 - Cyclohexane
- MW-8C (Lab ID: 10479716011)
 - Cyclohexane
- McIlhatten Seep (Lab ID: 10479716025)
 - Cyclohexane
- Valley View Vet Well (Lab ID: 10479716026)
 - Cyclohexane

QC Batch: 615092

F1: The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.

- MS (Lab ID: 3323290)
 - 1,2-Dichloroethane-d4 (S)
- MSD (Lab ID: 3323291)
 - 1,2-Dichloroethane-d4 (S)

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- BLANK (Lab ID: 3323288)
 - Cyclohexane
- DUP3 (Lab ID: 10479716029)
 - Cyclohexane
- LCS (Lab ID: 3323289)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

Analyte Comments:

QC Batch: 615092

N2: The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

- MS (Lab ID: 3323290)
 - Cyclohexane
- MSD (Lab ID: 3323291)
 - Cyclohexane
- MW-17 (Lab ID: 10479716019)
 - Cyclohexane
- MW-20 (Lab ID: 10479716022)
 - Cyclohexane
- MW-24 (Lab ID: 10479716023)
 - Cyclohexane
- MW-27 (Lab ID: 10479716024)
 - Cyclohexane
- MW-6 (Lab ID: 10479716005)
 - Cyclohexane
- MW-6B (Lab ID: 10479716006)
 - Cyclohexane

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 353.2

Description: 353.2 Nitrate + Nitrite pres.

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

General Information:

17 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

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

Initial Calibrations (including MS Tune as applicable):

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

Continuing Calibration:

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

Internal Standards:

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

Surrogates:

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

Method Blank:

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

QC Batch: 615063

B: Analyte was detected in the associated method blank.

- BLANK for HBN 615063 [MT/43451 (Lab ID: 3323182)
- Nitrogen, NO2 plus NO3

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

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

QC Batch: 615207

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10479712010,10479815001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 3323841)
- Nitrogen, NO2 plus NO3

Duplicate Sample:

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

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

PROJECT NARRATIVE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Method: EPA 353.2

Description: 353.2 Nitrate + Nitrite pres.

Client: Tetra Tech, Inc. - MT

Date: June 28, 2019

Analyte Comments:

QC Batch: 615207

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

- MS (Lab ID: 3323841)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 3323842)
 - Nitrogen, NO2 plus NO3

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

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: LF-2 **Lab ID:** 10479716001 Collected: 06/12/19 11:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 13:57	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 13:57	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:57	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 13:57	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 13:57	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:57	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 13:57	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 13:57	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:57	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 13:57	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 13:57	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:57	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:57	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:57	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:57	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 13:57	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 13:57	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 13:57	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 13:57	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 13:57	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 13:57	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 13:57	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:57	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 13:57	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:57	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 13:57	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 13:57	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 13:57	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 13:57	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:57	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 13:57	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 13:57	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:57	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 13:57	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 13:57	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 13:57	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 13:57	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:57	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 13:57	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 13:57	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 13:57	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 13:57	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 13:57	100-42-5	
Tetrachloroethene	0.65	ug/L	0.50	0.17	1		06/19/19 13:57	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 13:57	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 13:57	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: LF-2 **Lab ID: 10479716001** Collected: 06/12/19 11:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 13:57	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 13:57	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 13:57	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 13:57	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 13:57	1330-20-7	
cis-1,2-Dichloroethene	0.27J	ug/L	0.50	0.15	1		06/19/19 13:57	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:57	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 13:57	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:57	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 13:57	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 13:57	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 13:57	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-136		1		06/19/19 13:57	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 13:57	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		06/19/19 13:57	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.9	mg/L	0.20	0.068	10		06/26/19 14:34		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: LF-3 Lab ID: 10479716002 Collected: 06/12/19 12:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 14:21	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 14:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 14:21	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 14:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 14:21	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 14:21	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 14:21	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 14:21	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 14:21	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 14:21	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 14:21	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 14:21	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 14:21	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 14:21	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 14:21	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 14:21	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 14:21	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 14:21	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 14:21	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 14:21	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 14:21	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 14:21	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 14:21	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 14:21	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 14:21	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 14:21	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 14:21	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 14:21	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 14:21	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 14:21	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 14:21	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 14:21	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 14:21	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 14:21	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 14:21	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 14:21	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 14:21	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 14:21	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 14:21	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 14:21	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 14:21	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 14:21	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 14:21	100-42-5	
Tetrachloroethene	2.4	ug/L	0.50	0.17	1		06/19/19 14:21	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 14:21	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 14:21	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: LF-3 **Lab ID: 10479716002** Collected: 06/12/19 12:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.58	ug/L	0.40	0.15	1		06/19/19 14:21	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 14:21	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 14:21	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 14:21	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 14:21	1330-20-7	
cis-1,2-Dichloroethene	1.5	ug/L	0.50	0.15	1		06/19/19 14:21	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 14:21	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 14:21	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 14:21	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 14:21	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 14:21	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 14:21	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-136		1		06/19/19 14:21	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 14:21	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/19/19 14:21	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.3	mg/L	0.20	0.068	10		06/26/19 14:36		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-4 Lab ID: 10479716003 Collected: 06/12/19 14:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 14:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 14:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 14:44	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 14:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 14:44	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 14:44	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 14:44	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 14:44	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 14:44	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 14:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 14:44	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 14:44	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 14:44	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 14:44	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 14:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 14:44	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 14:44	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 14:44	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 14:44	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 14:44	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 14:44	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 14:44	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 14:44	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 14:44	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 14:44	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 14:44	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 14:44	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 14:44	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 14:44	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 14:44	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 14:44	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 14:44	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 14:44	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 14:44	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 14:44	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 14:44	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 14:44	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 14:44	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 14:44	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 14:44	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 14:44	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 14:44	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 14:44	100-42-5	
Tetrachloroethene	0.79	ug/L	0.50	0.17	1		06/19/19 14:44	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 14:44	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 14:44	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-4 **Lab ID: 10479716003** Collected: 06/12/19 14:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.43	ug/L	0.40	0.15	1		06/19/19 14:44	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 14:44	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 14:44	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 14:44	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 14:44	1330-20-7	
cis-1,2-Dichloroethene	0.59	ug/L	0.50	0.15	1		06/19/19 14:44	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 14:44	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 14:44	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 14:44	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 14:44	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 14:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 14:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-136		1		06/19/19 14:44	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 14:44	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 14:44	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	2.8	mg/L	0.20	0.068	10		06/26/19 15:12		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-5 **Lab ID: 10479716004** Collected: 06/10/19 11:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 13:34	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 13:34	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:34	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 13:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 13:34	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:34	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 13:34	75-35-4	M1
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 13:34	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:34	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 13:34	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 13:34	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:34	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:34	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:34	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:34	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 13:34	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 13:34	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 13:34	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 13:34	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 13:34	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 13:34	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 13:34	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:34	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 13:34	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:34	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 13:34	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 13:34	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 13:34	75-15-0	M1
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 13:34	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:34	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 13:34	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 13:34	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:34	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 13:34	110-82-7	M1,N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 13:34	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 13:34	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 13:34	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:34	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 13:34	74-88-4	M1
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 13:34	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 13:34	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 13:34	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 13:34	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:34	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 13:34	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 13:34	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-5 **Lab ID: 10479716004** Collected: 06/10/19 11:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 13:34	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 13:34	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 13:34	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 13:34	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 13:34	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 13:34	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:34	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 13:34	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:34	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 13:34	156-60-5	M1
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 13:34	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 13:34	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-136		1		06/19/19 13:34	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 13:34	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/19/19 13:34	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.3	mg/L	0.20	0.068	10		06/26/19 14:43		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-6 Lab ID: 10479716005 Collected: 06/13/19 11:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 23:21	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 23:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 23:21	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 23:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 23:21	76-13-1	
1,1-Dichloroethane	0.81	ug/L	0.50	0.17	1		06/24/19 23:21	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 23:21	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 23:21	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 23:21	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 23:21	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 23:21	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 23:21	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 23:21	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 23:21	78-87-5	
1,4-Dichlorobenzene	0.22J	ug/L	0.50	0.17	1		06/24/19 23:21	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 23:21	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 23:21	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 23:21	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 23:21	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 23:21	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 23:21	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 23:21	107-13-1	
Benzene	0.18J	ug/L	0.50	0.10	1		06/24/19 23:21	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 23:21	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 23:21	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 23:21	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 23:21	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 23:21	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 23:21	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 23:21	108-90-7	
Chloroethane	0.88J	ug/L	1.0	0.49	1		06/24/19 23:21	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 23:21	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 23:21	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 23:21	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 23:21	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 23:21	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 23:21	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 23:21	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 23:21	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 23:21	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 23:21	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 23:21	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 23:21	100-42-5	
Tetrachloroethene	0.41J	ug/L	0.50	0.17	1		06/24/19 23:21	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 23:21	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 23:21	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-6 **Lab ID: 10479716005** Collected: 06/13/19 11:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.27J	ug/L	0.40	0.15	1		06/24/19 23:21	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 23:21	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 23:21	108-05-4	
Vinyl chloride	1.5	ug/L	0.20	0.092	1		06/24/19 23:21	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 23:21	1330-20-7	
cis-1,2-Dichloroethene	1.8	ug/L	0.50	0.15	1		06/24/19 23:21	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 23:21	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 23:21	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 23:21	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 23:21	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 23:21	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 23:21	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-136		1		06/24/19 23:21	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/24/19 23:21	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/24/19 23:21	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.73	mg/L	0.10	0.034	5		06/26/19 14:45		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-6B **Lab ID: 10479716006** Collected: 06/13/19 10:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 23:45	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 23:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 23:45	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 23:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 23:45	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 23:45	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 23:45	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 23:45	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 23:45	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 23:45	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 23:45	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 23:45	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 23:45	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 23:45	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 23:45	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 23:45	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 23:45	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 23:45	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 23:45	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 23:45	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 23:45	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 23:45	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 23:45	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 23:45	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 23:45	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 23:45	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 23:45	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 23:45	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 23:45	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 23:45	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 23:45	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 23:45	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 23:45	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 23:45	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 23:45	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 23:45	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 23:45	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 23:45	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 23:45	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 23:45	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 23:45	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 23:45	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 23:45	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/24/19 23:45	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 23:45	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 23:45	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-6B **Lab ID: 10479716006** Collected: 06/13/19 10:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/24/19 23:45	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 23:45	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 23:45	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 23:45	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 23:45	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 23:45	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 23:45	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 23:45	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 23:45	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 23:45	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 23:45	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 23:45	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-136		1		06/24/19 23:45	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/24/19 23:45	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/24/19 23:45	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-7A **Lab ID: 10479716007** Collected: 06/10/19 12:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 15:08	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 15:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 15:08	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 15:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 15:08	76-13-1	
1,1-Dichloroethane	1.5	ug/L	0.50	0.17	1		06/19/19 15:08	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 15:08	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 15:08	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:08	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 15:08	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 15:08	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:08	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:08	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:08	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:08	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 15:08	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 15:08	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 15:08	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 15:08	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 15:08	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 15:08	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 15:08	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:08	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 15:08	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:08	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 15:08	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 15:08	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 15:08	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 15:08	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:08	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 15:08	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 15:08	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:08	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 15:08	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 15:08	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 15:08	74-95-3	
Dichlorodifluoromethane	0.70J	ug/L	1.0	0.23	1		06/19/19 15:08	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:08	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 15:08	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 15:08	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 15:08	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 15:08	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 15:08	100-42-5	
Tetrachloroethene	1.3	ug/L	0.50	0.17	1		06/19/19 15:08	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 15:08	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 15:08	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-7A **Lab ID: 10479716007** Collected: 06/10/19 12:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	1.2	ug/L	0.40	0.15	1		06/19/19 15:08	79-01-6	
Trichlorofluoromethane	0.27J	ug/L	0.50	0.23	1		06/19/19 15:08	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 15:08	108-05-4	
Vinyl chloride	0.10J	ug/L	0.20	0.092	1		06/19/19 15:08	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 15:08	1330-20-7	
cis-1,2-Dichloroethene	0.30J	ug/L	0.50	0.15	1		06/19/19 15:08	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:08	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 15:08	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:08	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 15:08	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 15:08	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 15:08	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-136		1		06/19/19 15:08	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 15:08	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 15:08	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	4.7	mg/L	0.20	0.068	10		06/26/19 14:46		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: **MW-7B** Lab ID: **10479716008** Collected: 06/10/19 12:45 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 17:30	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 17:30	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 17:30	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 17:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 17:30	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 17:30	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 17:30	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 17:30	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:30	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 17:30	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 17:30	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:30	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:30	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 17:30	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:30	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 17:30	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 17:30	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 17:30	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 17:30	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 17:30	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 17:30	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 17:30	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 17:30	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 17:30	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:30	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 17:30	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 17:30	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 17:30	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 17:30	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:30	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 17:30	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 17:30	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 17:30	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 17:30	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 17:30	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 17:30	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 17:30	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:30	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 17:30	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 17:30	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 17:30	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 17:30	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 17:30	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:30	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 17:30	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 17:30	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-7B **Lab ID: 10479716008** Collected: 06/10/19 12:45 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 17:30	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 17:30	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 17:30	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 17:30	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 17:30	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 17:30	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:30	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 17:30	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 17:30	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 17:30	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 17:30	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 17:30	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-136		1		06/19/19 17:30	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 17:30	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/19/19 17:30	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-8A Lab ID: 10479716009 Collected: 06/12/19 15:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 15:32	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 15:32	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 15:32	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 15:32	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 15:32	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 15:32	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 15:32	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 15:32	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:32	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 15:32	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 15:32	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:32	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:32	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:32	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:32	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 15:32	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 15:32	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 15:32	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 15:32	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 15:32	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 15:32	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 15:32	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:32	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 15:32	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:32	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 15:32	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 15:32	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 15:32	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 15:32	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:32	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 15:32	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 15:32	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:32	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 15:32	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 15:32	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 15:32	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 15:32	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:32	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 15:32	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 15:32	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 15:32	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 15:32	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 15:32	100-42-5	
Tetrachloroethene	0.52	ug/L	0.50	0.17	1		06/19/19 15:32	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 15:32	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 15:32	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-8A **Lab ID: 10479716009** Collected: 06/12/19 15:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 15:32	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 15:32	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 15:32	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 15:32	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 15:32	1330-20-7	
cis-1,2-Dichloroethene	0.52	ug/L	0.50	0.15	1		06/19/19 15:32	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:32	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 15:32	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:32	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 15:32	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 15:32	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 15:32	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-136		1		06/19/19 15:32	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/19/19 15:32	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/19/19 15:32	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	13.9	mg/L	0.80	0.27	40		06/26/19 14:48		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: **MW-8B** Lab ID: **10479716010** Collected: 06/12/19 16:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 11:08	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 11:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 11:08	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 11:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 11:08	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 11:08	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 11:08	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 11:08	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 11:08	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 11:08	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 11:08	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 11:08	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 11:08	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 11:08	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 11:08	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 11:08	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 11:08	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 11:08	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 11:08	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 11:08	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 11:08	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 11:08	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 11:08	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 11:08	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 11:08	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 11:08	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 11:08	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 11:08	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 11:08	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 11:08	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 11:08	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 11:08	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 11:08	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 11:08	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 11:08	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 11:08	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 11:08	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 11:08	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 11:08	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 11:08	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 11:08	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 11:08	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 11:08	100-42-5	
Tetrachloroethene	0.68	ug/L	0.50	0.17	1		06/24/19 11:08	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 11:08	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 11:08	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-8B **Lab ID: 10479716010** Collected: 06/12/19 16:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.24J	ug/L	0.40	0.15	1		06/24/19 11:08	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 11:08	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 11:08	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 11:08	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 11:08	1330-20-7	
cis-1,2-Dichloroethene	0.95	ug/L	0.50	0.15	1		06/24/19 11:08	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 11:08	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 11:08	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 11:08	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 11:08	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 11:08	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 11:08	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-136		1		06/24/19 11:08	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/24/19 11:08	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/24/19 11:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-8C Lab ID: 10479716011 Collected: 06/12/19 17:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 13:53	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 13:53	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 13:53	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 13:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 13:53	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 13:53	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 13:53	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 13:53	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 13:53	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 13:53	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 13:53	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 13:53	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 13:53	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 13:53	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 13:53	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 13:53	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 13:53	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 13:53	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 13:53	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 13:53	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 13:53	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 13:53	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 13:53	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 13:53	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 13:53	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 13:53	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 13:53	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 13:53	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 13:53	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 13:53	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 13:53	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 13:53	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 13:53	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 13:53	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 13:53	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 13:53	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 13:53	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 13:53	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 13:53	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 13:53	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 13:53	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 13:53	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 13:53	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/24/19 13:53	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 13:53	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 13:53	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-8C **Lab ID: 10479716011** Collected: 06/12/19 17:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/24/19 13:53	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 13:53	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 13:53	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 13:53	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 13:53	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 13:53	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 13:53	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 13:53	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 13:53	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 13:53	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 13:53	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 13:53	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-136		1		06/24/19 13:53	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		06/24/19 13:53	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		06/24/19 13:53	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-9A Lab ID: 10479716012 Collected: 06/10/19 14:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 15:55	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 15:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 15:55	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 15:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 15:55	76-13-1	
1,1-Dichloroethane	0.29J	ug/L	0.50	0.17	1		06/19/19 15:55	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 15:55	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 15:55	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:55	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 15:55	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 15:55	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:55	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:55	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:55	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:55	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 15:55	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 15:55	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 15:55	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 15:55	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 15:55	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 15:55	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 15:55	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:55	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 15:55	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 15:55	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 15:55	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 15:55	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 15:55	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 15:55	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 15:55	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 15:55	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 15:55	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 15:55	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 15:55	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 15:55	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 15:55	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 15:55	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 15:55	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 15:55	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 15:55	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 15:55	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 15:55	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 15:55	100-42-5	
Tetrachloroethene	1.3	ug/L	0.50	0.17	1		06/19/19 15:55	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 15:55	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 15:55	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-9A **Lab ID: 10479716012** Collected: 06/10/19 14:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.67	ug/L	0.40	0.15	1		06/19/19 15:55	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 15:55	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 15:55	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 15:55	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 15:55	1330-20-7	
cis-1,2-Dichloroethene	0.66	ug/L	0.50	0.15	1		06/19/19 15:55	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 15:55	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 15:55	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 15:55	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 15:55	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 15:55	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 15:55	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-136		1		06/19/19 15:55	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/19/19 15:55	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		06/19/19 15:55	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.3	mg/L	0.20	0.068	10		06/26/19 15:13		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-9B **Lab ID: 10479716013** Collected: 06/10/19 14:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 16:19	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 16:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 16:19	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 16:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 16:19	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 16:19	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 16:19	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 16:19	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 16:19	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 16:19	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 16:19	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 16:19	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 16:19	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 16:19	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 16:19	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 16:19	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 16:19	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 16:19	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 16:19	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 16:19	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 16:19	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 16:19	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 16:19	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 16:19	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 16:19	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 16:19	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 16:19	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 16:19	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 16:19	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 16:19	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 16:19	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 16:19	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 16:19	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 16:19	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 16:19	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 16:19	74-95-3	
Dichlorodifluoromethane	0.64J	ug/L	1.0	0.23	1		06/19/19 16:19	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 16:19	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 16:19	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 16:19	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 16:19	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 16:19	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 16:19	100-42-5	
Tetrachloroethene	0.93	ug/L	0.50	0.17	1		06/19/19 16:19	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 16:19	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 16:19	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-9B **Lab ID: 10479716013** Collected: 06/10/19 14:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.61	ug/L	0.40	0.15	1		06/19/19 16:19	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 16:19	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 16:19	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 16:19	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 16:19	1330-20-7	
cis-1,2-Dichloroethene	0.68	ug/L	0.50	0.15	1		06/19/19 16:19	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 16:19	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 16:19	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 16:19	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 16:19	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 16:19	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 16:19	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-136		1		06/19/19 16:19	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/19/19 16:19	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 16:19	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-10 **Lab ID: 10479716014** Collected: 06/12/19 10:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 14:17	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 14:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 14:17	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 14:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 14:17	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 14:17	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 14:17	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 14:17	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 14:17	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 14:17	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 14:17	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 14:17	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 14:17	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 14:17	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 14:17	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 14:17	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 14:17	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 14:17	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 14:17	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 14:17	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 14:17	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 14:17	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 14:17	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 14:17	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 14:17	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 14:17	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 14:17	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 14:17	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 14:17	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 14:17	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 14:17	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 14:17	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 14:17	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 14:17	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 14:17	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 14:17	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 14:17	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 14:17	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 14:17	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 14:17	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 14:17	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 14:17	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 14:17	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/24/19 14:17	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 14:17	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 14:17	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-10 **Lab ID: 10479716014** Collected: 06/12/19 10:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.30J	ug/L	0.40	0.15	1		06/24/19 14:17	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 14:17	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 14:17	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 14:17	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 14:17	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 14:17	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 14:17	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 14:17	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 14:17	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 14:17	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 14:17	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 14:17	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-136		1		06/24/19 14:17	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		06/24/19 14:17	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/24/19 14:17	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.0080J	mg/L	0.020	0.0068	1		06/26/19 14:51		B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-11 **Lab ID: 10479716015** Collected: 06/10/19 15:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 19:05	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 19:05	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 19:05	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 19:05	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 19:05	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 19:05	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 19:05	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 19:05	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 19:05	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 19:05	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 19:05	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 19:05	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 19:05	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 19:05	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 19:05	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 19:05	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 19:05	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 19:05	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 19:05	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 19:05	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 19:05	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 19:05	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 19:05	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 19:05	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 19:05	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 19:05	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 19:05	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 19:05	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 19:05	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 19:05	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 19:05	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 19:05	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 19:05	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 19:05	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 19:05	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 19:05	74-95-3	
Dichlorodifluoromethane	2.1	ug/L	1.0	0.23	1		06/19/19 19:05	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 19:05	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 19:05	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 19:05	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 19:05	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 19:05	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 19:05	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 19:05	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 19:05	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 19:05	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-11 **Lab ID: 10479716015** Collected: 06/10/19 15:20 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 19:05	79-01-6	
Trichlorofluoromethane	1.7	ug/L	0.50	0.23	1		06/19/19 19:05	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 19:05	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 19:05	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 19:05	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 19:05	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 19:05	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 19:05	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 19:05	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 19:05	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 19:05	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 19:05	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-136		1		06/19/19 19:05	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/19/19 19:05	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/19/19 19:05	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	6.1	mg/L	0.40	0.14	20		06/28/19 12:07		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-12 **Lab ID: 10479716016** Collected: 06/10/19 15:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 16:43	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 16:43	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 16:43	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 16:43	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 16:43	76-13-1	
1,1-Dichloroethane	1.7	ug/L	0.50	0.17	1		06/19/19 16:43	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 16:43	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 16:43	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 16:43	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 16:43	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 16:43	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 16:43	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 16:43	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 16:43	78-87-5	
1,4-Dichlorobenzene	0.43J	ug/L	0.50	0.17	1		06/19/19 16:43	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 16:43	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 16:43	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 16:43	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 16:43	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 16:43	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 16:43	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 16:43	107-13-1	
Benzene	0.82	ug/L	0.50	0.10	1		06/19/19 16:43	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 16:43	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 16:43	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 16:43	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 16:43	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 16:43	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 16:43	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 16:43	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 16:43	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 16:43	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 16:43	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 16:43	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 16:43	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 16:43	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 16:43	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 16:43	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 16:43	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 16:43	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 16:43	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 16:43	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 16:43	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 16:43	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 16:43	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 16:43	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-12 **Lab ID: 10479716016** Collected: 06/10/19 15:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.73	ug/L	0.40	0.15	1		06/19/19 16:43	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 16:43	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 16:43	108-05-4	
Vinyl chloride	15.1	ug/L	0.20	0.092	1		06/19/19 16:43	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 16:43	1330-20-7	
cis-1,2-Dichloroethene	6.8	ug/L	0.50	0.15	1		06/19/19 16:43	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 16:43	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 16:43	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 16:43	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 16:43	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 16:43	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 16:43	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-136		1		06/19/19 16:43	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 16:43	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 16:43	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.024	mg/L	0.020	0.0068	1		06/28/19 12:09		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-13 Lab ID: 10479716017 Collected: 06/10/19 13:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 19:28	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 19:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 19:28	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 19:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 19:28	76-13-1	
1,1-Dichloroethane	0.83	ug/L	0.50	0.17	1		06/19/19 19:28	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 19:28	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 19:28	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 19:28	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 19:28	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 19:28	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 19:28	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 19:28	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 19:28	78-87-5	
1,4-Dichlorobenzene	0.66	ug/L	0.50	0.17	1		06/19/19 19:28	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 19:28	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 19:28	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 19:28	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 19:28	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 19:28	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 19:28	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 19:28	107-13-1	
Benzene	0.51	ug/L	0.50	0.10	1		06/19/19 19:28	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 19:28	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 19:28	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 19:28	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 19:28	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 19:28	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 19:28	56-23-5	
Chlorobenzene	0.20J	ug/L	0.50	0.17	1		06/19/19 19:28	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 19:28	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 19:28	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 19:28	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 19:28	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 19:28	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 19:28	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 19:28	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 19:28	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 19:28	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 19:28	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 19:28	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 19:28	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 19:28	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 19:28	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 19:28	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 19:28	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-13 **Lab ID: 10479716017** Collected: 06/10/19 13:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.21J	ug/L	0.40	0.15	1		06/19/19 19:28	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 19:28	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 19:28	108-05-4	
Vinyl chloride	9.7	ug/L	0.20	0.092	1		06/19/19 19:28	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 19:28	1330-20-7	
cis-1,2-Dichloroethene	0.93	ug/L	0.50	0.15	1		06/19/19 19:28	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 19:28	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 19:28	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 19:28	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 19:28	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 19:28	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 19:28	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-136		1		06/19/19 19:28	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/19/19 19:28	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/19/19 19:28	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.013J	mg/L	0.020	0.0068	1		06/28/19 12:10		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-15 Lab ID: 10479716018 Collected: 06/10/19 11:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 17:06	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 17:06	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 17:06	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 17:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 17:06	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 17:06	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 17:06	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 17:06	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:06	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 17:06	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 17:06	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:06	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:06	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 17:06	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:06	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 17:06	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 17:06	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 17:06	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 17:06	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 17:06	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 17:06	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 17:06	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 17:06	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 17:06	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:06	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 17:06	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 17:06	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 17:06	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 17:06	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:06	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 17:06	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 17:06	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 17:06	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 17:06	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 17:06	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 17:06	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 17:06	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:06	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 17:06	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 17:06	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 17:06	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 17:06	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 17:06	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:06	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 17:06	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 17:06	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-15 **Lab ID: 10479716018** Collected: 06/10/19 11:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 17:06	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 17:06	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 17:06	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 17:06	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 17:06	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 17:06	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:06	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 17:06	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 17:06	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 17:06	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 17:06	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 17:06	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-136		1		06/19/19 17:06	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 17:06	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		06/19/19 17:06	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	3.8	mg/L	0.20	0.068	10		06/28/19 12:16		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-17 Lab ID: 10479716019 Collected: 06/13/19 13:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/25/19 00:08	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/25/19 00:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 00:08	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/25/19 00:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/25/19 00:08	76-13-1	
1,1-Dichloroethane	0.93	ug/L	0.50	0.17	1		06/25/19 00:08	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/25/19 00:08	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/25/19 00:08	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:08	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/25/19 00:08	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/25/19 00:08	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:08	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:08	107-06-2	
1,2-Dichloropropane	1.8J	ug/L	4.0	0.16	1		06/25/19 00:08	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:08	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/25/19 00:08	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/25/19 00:08	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/25/19 00:08	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/25/19 00:08	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/25/19 00:08	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/25/19 00:08	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/25/19 00:08	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:08	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/25/19 00:08	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:08	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/25/19 00:08	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/25/19 00:08	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/25/19 00:08	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/25/19 00:08	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:08	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/25/19 00:08	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/25/19 00:08	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/25/19 00:08	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/25/19 00:08	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/25/19 00:08	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/25/19 00:08	74-95-3	
Dichlorodifluoromethane	0.30J	ug/L	1.0	0.23	1		06/25/19 00:08	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:08	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/25/19 00:08	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/25/19 00:08	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/25/19 00:08	1634-04-4	
Methylene Chloride	14.2	ug/L	4.0	0.98	1		06/25/19 00:08	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/25/19 00:08	100-42-5	
Tetrachloroethene	10.0	ug/L	0.50	0.17	1		06/25/19 00:08	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/25/19 00:08	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/25/19 00:08	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-17 **Lab ID: 10479716019** Collected: 06/13/19 13:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	4.7	ug/L	0.40	0.15	1		06/25/19 00:08	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/25/19 00:08	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/25/19 00:08	108-05-4	
Vinyl chloride	0.56	ug/L	0.20	0.092	1		06/25/19 00:08	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/25/19 00:08	1330-20-7	
cis-1,2-Dichloroethene	27.5	ug/L	0.50	0.15	1		06/25/19 00:08	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:08	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/25/19 00:08	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:08	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/25/19 00:08	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/25/19 00:08	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/25/19 00:08	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-136		1		06/25/19 00:08	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		06/25/19 00:08	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/25/19 00:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-18 Lab ID: 10479716020 Collected: 06/10/19 17:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 18:41	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 18:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 18:41	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 18:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 18:41	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 18:41	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 18:41	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 18:41	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 18:41	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 18:41	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 18:41	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 18:41	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 18:41	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 18:41	78-87-5	
1,4-Dichlorobenzene	0.47J	ug/L	0.50	0.17	1		06/19/19 18:41	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 18:41	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 18:41	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 18:41	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 18:41	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 18:41	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 18:41	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 18:41	107-13-1	
Benzene	0.18J	ug/L	0.50	0.10	1		06/19/19 18:41	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 18:41	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 18:41	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 18:41	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 18:41	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 18:41	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 18:41	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 18:41	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 18:41	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 18:41	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 18:41	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 18:41	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 18:41	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 18:41	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 18:41	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 18:41	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 18:41	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 18:41	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 18:41	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 18:41	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 18:41	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 18:41	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 18:41	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 18:41	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-18 **Lab ID: 10479716020** Collected: 06/10/19 17:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 18:41	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 18:41	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 18:41	108-05-4	
Vinyl chloride	0.47	ug/L	0.20	0.092	1		06/19/19 18:41	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 18:41	1330-20-7	
cis-1,2-Dichloroethene	0.16J	ug/L	0.50	0.15	1		06/19/19 18:41	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 18:41	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 18:41	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 18:41	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 18:41	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 18:41	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 18:41	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-136		1		06/19/19 18:41	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/19/19 18:41	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 18:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-19 **Lab ID: 10479716021** Collected: 06/12/19 13:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 14:40	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 14:40	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 14:40	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 14:40	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 14:40	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 14:40	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 14:40	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 14:40	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 14:40	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 14:40	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 14:40	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 14:40	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 14:40	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 14:40	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 14:40	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 14:40	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 14:40	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 14:40	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 14:40	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 14:40	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 14:40	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 14:40	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 14:40	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 14:40	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 14:40	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 14:40	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 14:40	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 14:40	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 14:40	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 14:40	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 14:40	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 14:40	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 14:40	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 14:40	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 14:40	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 14:40	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 14:40	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 14:40	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 14:40	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 14:40	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 14:40	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 14:40	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 14:40	100-42-5	
Tetrachloroethene	0.82	ug/L	0.50	0.17	1		06/24/19 14:40	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 14:40	109-99-9	
Toluene	0.27J	ug/L	0.50	0.083	1		06/24/19 14:40	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-19 **Lab ID: 10479716021** Collected: 06/12/19 13:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/24/19 14:40	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 14:40	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 14:40	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 14:40	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 14:40	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 14:40	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 14:40	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 14:40	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 14:40	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 14:40	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 14:40	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 14:40	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-136		1		06/24/19 14:40	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/24/19 14:40	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/24/19 14:40	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-20 Lab ID: 10479716022 Collected: 06/13/19 14:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/25/19 00:32	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/25/19 00:32	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 00:32	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/25/19 00:32	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/25/19 00:32	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 00:32	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/25/19 00:32	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/25/19 00:32	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:32	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/25/19 00:32	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/25/19 00:32	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:32	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:32	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/25/19 00:32	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:32	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/25/19 00:32	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/25/19 00:32	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/25/19 00:32	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/25/19 00:32	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/25/19 00:32	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/25/19 00:32	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/25/19 00:32	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:32	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/25/19 00:32	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:32	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/25/19 00:32	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/25/19 00:32	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/25/19 00:32	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/25/19 00:32	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:32	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/25/19 00:32	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/25/19 00:32	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/25/19 00:32	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/25/19 00:32	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/25/19 00:32	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/25/19 00:32	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/25/19 00:32	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:32	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/25/19 00:32	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/25/19 00:32	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/25/19 00:32	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/25/19 00:32	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/25/19 00:32	100-42-5	
Tetrachloroethene	7.1	ug/L	0.50	0.17	1		06/25/19 00:32	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/25/19 00:32	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/25/19 00:32	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-20 **Lab ID: 10479716022** Collected: 06/13/19 14:50 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.27J	ug/L	0.40	0.15	1		06/25/19 00:32	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/25/19 00:32	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/25/19 00:32	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/25/19 00:32	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/25/19 00:32	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/25/19 00:32	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:32	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/25/19 00:32	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:32	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/25/19 00:32	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/25/19 00:32	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/25/19 00:32	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-136		1		06/25/19 00:32	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/25/19 00:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		06/25/19 00:32	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-24 **Lab ID: 10479716023** Collected: 06/13/19 09:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/25/19 00:56	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/25/19 00:56	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 00:56	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/25/19 00:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/25/19 00:56	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 00:56	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/25/19 00:56	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/25/19 00:56	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:56	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/25/19 00:56	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/25/19 00:56	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:56	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:56	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/25/19 00:56	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:56	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/25/19 00:56	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/25/19 00:56	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/25/19 00:56	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/25/19 00:56	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/25/19 00:56	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/25/19 00:56	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/25/19 00:56	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:56	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/25/19 00:56	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/25/19 00:56	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/25/19 00:56	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/25/19 00:56	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/25/19 00:56	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/25/19 00:56	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 00:56	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/25/19 00:56	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/25/19 00:56	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/25/19 00:56	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/25/19 00:56	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/25/19 00:56	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/25/19 00:56	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/25/19 00:56	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 00:56	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/25/19 00:56	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/25/19 00:56	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/25/19 00:56	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/25/19 00:56	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/25/19 00:56	100-42-5	
Tetrachloroethene	2.0	ug/L	0.50	0.17	1		06/25/19 00:56	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/25/19 00:56	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/25/19 00:56	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-24 **Lab ID: 10479716023** Collected: 06/13/19 09:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/25/19 00:56	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/25/19 00:56	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/25/19 00:56	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/25/19 00:56	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/25/19 00:56	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/25/19 00:56	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/25/19 00:56	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/25/19 00:56	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/25/19 00:56	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/25/19 00:56	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/25/19 00:56	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/25/19 00:56	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-136		1		06/25/19 00:56	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/25/19 00:56	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/25/19 00:56	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-27 Lab ID: 10479716024 Collected: 06/13/19 13:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/25/19 01:19	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/25/19 01:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 01:19	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/25/19 01:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/25/19 01:19	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 01:19	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/25/19 01:19	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/25/19 01:19	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/25/19 01:19	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/25/19 01:19	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/25/19 01:19	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 01:19	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/25/19 01:19	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/25/19 01:19	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 01:19	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/25/19 01:19	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/25/19 01:19	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/25/19 01:19	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/25/19 01:19	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/25/19 01:19	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/25/19 01:19	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/25/19 01:19	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/25/19 01:19	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/25/19 01:19	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/25/19 01:19	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/25/19 01:19	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/25/19 01:19	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/25/19 01:19	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/25/19 01:19	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 01:19	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/25/19 01:19	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/25/19 01:19	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/25/19 01:19	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/25/19 01:19	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/25/19 01:19	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/25/19 01:19	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/25/19 01:19	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 01:19	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/25/19 01:19	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/25/19 01:19	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/25/19 01:19	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/25/19 01:19	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/25/19 01:19	100-42-5	
Tetrachloroethene	1.0	ug/L	0.50	0.17	1		06/25/19 01:19	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/25/19 01:19	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/25/19 01:19	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: MW-27 **Lab ID: 10479716024** Collected: 06/13/19 13:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/25/19 01:19	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/25/19 01:19	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/25/19 01:19	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/25/19 01:19	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/25/19 01:19	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/25/19 01:19	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/25/19 01:19	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/25/19 01:19	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/25/19 01:19	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/25/19 01:19	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/25/19 01:19	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/25/19 01:19	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-136		1		06/25/19 01:19	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/25/19 01:19	2037-26-5	
4-Bromofluorobenzene (S)	94	%	75-125		1		06/25/19 01:19	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	7.0	mg/L	0.40	0.14	20		06/28/19 12:18		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: **Mclhattan Seep** Lab ID: **10479716025** Collected: 06/12/19 11:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 15:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 15:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 15:04	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 15:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 15:04	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 15:04	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 15:04	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 15:04	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 15:04	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 15:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 15:04	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 15:04	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 15:04	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 15:04	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 15:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 15:04	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 15:04	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 15:04	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 15:04	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 15:04	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 15:04	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 15:04	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 15:04	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 15:04	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 15:04	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 15:04	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 15:04	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 15:04	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 15:04	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 15:04	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 15:04	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 15:04	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 15:04	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 15:04	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 15:04	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 15:04	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 15:04	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 15:04	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 15:04	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 15:04	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 15:04	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 15:04	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 15:04	100-42-5	
Tetrachloroethene	0.59	ug/L	0.50	0.17	1		06/24/19 15:04	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 15:04	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 15:04	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: Mclhattan Seep **Lab ID: 10479716025** Collected: 06/12/19 11:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/24/19 15:04	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 15:04	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 15:04	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 15:04	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 15:04	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 15:04	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 15:04	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 15:04	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 15:04	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 15:04	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 15:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 15:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-136		1		06/24/19 15:04	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/24/19 15:04	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/24/19 15:04	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	5.9	mg/L	0.40	0.14	20		06/28/19 12:19		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: Valley View Vet Well Lab ID: 10479716026 Collected: 06/12/19 10:15 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/24/19 15:28	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/24/19 15:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 15:28	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/24/19 15:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/24/19 15:28	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/24/19 15:28	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/24/19 15:28	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/24/19 15:28	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/24/19 15:28	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/24/19 15:28	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/24/19 15:28	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 15:28	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/24/19 15:28	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/24/19 15:28	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 15:28	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/24/19 15:28	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/24/19 15:28	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/24/19 15:28	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/24/19 15:28	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/24/19 15:28	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/24/19 15:28	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/24/19 15:28	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/24/19 15:28	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/24/19 15:28	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/24/19 15:28	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/24/19 15:28	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/24/19 15:28	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/24/19 15:28	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/24/19 15:28	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/24/19 15:28	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/24/19 15:28	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/24/19 15:28	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/24/19 15:28	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/24/19 15:28	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/24/19 15:28	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/24/19 15:28	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/24/19 15:28	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/24/19 15:28	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/24/19 15:28	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/24/19 15:28	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/24/19 15:28	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/24/19 15:28	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/24/19 15:28	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/24/19 15:28	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/24/19 15:28	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/24/19 15:28	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: Valley View Vet Well **Lab ID: 10479716026** Collected: 06/12/19 10:15 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/24/19 15:28	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/24/19 15:28	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/24/19 15:28	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/24/19 15:28	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/24/19 15:28	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/24/19 15:28	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/24/19 15:28	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/24/19 15:28	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/24/19 15:28	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/24/19 15:28	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/24/19 15:28	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/24/19 15:28	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-136		1		06/24/19 15:28	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		06/24/19 15:28	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		06/24/19 15:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP1 Lab ID: 10479716027 Collected: 06/10/19 13:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 17:54	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 17:54	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 17:54	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 17:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 17:54	76-13-1	
1,1-Dichloroethane	0.82	ug/L	0.50	0.17	1		06/19/19 17:54	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 17:54	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 17:54	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:54	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 17:54	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 17:54	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:54	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:54	107-06-2	
1,2-Dichloropropane	0.22J	ug/L	4.0	0.16	1		06/19/19 17:54	78-87-5	
1,4-Dichlorobenzene	0.60	ug/L	0.50	0.17	1		06/19/19 17:54	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 17:54	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 17:54	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 17:54	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 17:54	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 17:54	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 17:54	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 17:54	107-13-1	
Benzene	0.51	ug/L	0.50	0.10	1		06/19/19 17:54	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 17:54	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 17:54	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 17:54	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 17:54	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 17:54	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 17:54	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:54	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 17:54	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 17:54	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 17:54	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 17:54	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 17:54	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 17:54	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 17:54	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 17:54	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 17:54	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 17:54	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 17:54	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 17:54	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 17:54	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 17:54	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 17:54	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 17:54	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP1 **Lab ID: 10479716027** Collected: 06/10/19 13:40 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.34J	ug/L	0.40	0.15	1		06/19/19 17:54	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 17:54	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 17:54	108-05-4	
Vinyl chloride	9.0	ug/L	0.20	0.092	1		06/19/19 17:54	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 17:54	1330-20-7	
cis-1,2-Dichloroethene	0.83	ug/L	0.50	0.15	1		06/19/19 17:54	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 17:54	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 17:54	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 17:54	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 17:54	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 17:54	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 17:54	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-136		1		06/19/19 17:54	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		06/19/19 17:54	2037-26-5	
4-Bromofluorobenzene (S)	94	%	75-125		1		06/19/19 17:54	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.020	mg/L	0.020	0.0068	1		06/28/19 12:21		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP2 Lab ID: 10479716028 Collected: 06/10/19 17:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 18:17	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 18:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 18:17	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 18:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 18:17	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 18:17	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 18:17	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 18:17	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 18:17	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 18:17	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 18:17	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 18:17	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 18:17	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 18:17	78-87-5	
1,4-Dichlorobenzene	0.44J	ug/L	0.50	0.17	1		06/19/19 18:17	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 18:17	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 18:17	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 18:17	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/19/19 18:17	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 18:17	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 18:17	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 18:17	107-13-1	
Benzene	0.19J	ug/L	0.50	0.10	1		06/19/19 18:17	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 18:17	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 18:17	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 18:17	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 18:17	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 18:17	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 18:17	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 18:17	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 18:17	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 18:17	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 18:17	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 18:17	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 18:17	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 18:17	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 18:17	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 18:17	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 18:17	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 18:17	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 18:17	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/19/19 18:17	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 18:17	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 18:17	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 18:17	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 18:17	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP2 **Lab ID: 10479716028** Collected: 06/10/19 17:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 18:17	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 18:17	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 18:17	108-05-4	
Vinyl chloride	0.58	ug/L	0.20	0.092	1		06/19/19 18:17	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 18:17	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 18:17	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 18:17	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 18:17	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 18:17	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 18:17	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 18:17	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 18:17	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-136		1		06/19/19 18:17	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 18:17	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/19/19 18:17	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP3 Lab ID: 10479716029 Collected: 06/13/19 11:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/25/19 01:43	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/25/19 01:43	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/25/19 01:43	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/25/19 01:43	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/25/19 01:43	76-13-1	
1,1-Dichloroethane	0.78	ug/L	0.50	0.17	1		06/25/19 01:43	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/25/19 01:43	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/25/19 01:43	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/25/19 01:43	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/25/19 01:43	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/25/19 01:43	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 01:43	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/25/19 01:43	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/25/19 01:43	78-87-5	
1,4-Dichlorobenzene	0.22J	ug/L	0.50	0.17	1		06/25/19 01:43	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/25/19 01:43	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/25/19 01:43	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/25/19 01:43	591-78-6	
2-Propanol	<11.4	ug/L	100	11.4	1		06/25/19 01:43	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/25/19 01:43	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/25/19 01:43	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/25/19 01:43	107-13-1	
Benzene	0.17J	ug/L	0.50	0.10	1		06/25/19 01:43	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/25/19 01:43	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/25/19 01:43	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/25/19 01:43	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/25/19 01:43	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/25/19 01:43	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/25/19 01:43	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/25/19 01:43	108-90-7	
Chloroethane	0.75J	ug/L	1.0	0.49	1		06/25/19 01:43	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/25/19 01:43	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/25/19 01:43	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/25/19 01:43	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/25/19 01:43	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/25/19 01:43	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/25/19 01:43	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/25/19 01:43	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/25/19 01:43	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/25/19 01:43	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/25/19 01:43	1634-04-4	
Methylene Chloride	<0.98	ug/L	4.0	0.98	1		06/25/19 01:43	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/25/19 01:43	100-42-5	
Tetrachloroethene	0.43J	ug/L	0.50	0.17	1		06/25/19 01:43	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/25/19 01:43	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/25/19 01:43	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: DUP3 **Lab ID: 10479716029** Collected: 06/13/19 11:30 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	0.30J	ug/L	0.40	0.15	1		06/25/19 01:43	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/25/19 01:43	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/25/19 01:43	108-05-4	
Vinyl chloride	1.5	ug/L	0.20	0.092	1		06/25/19 01:43	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/25/19 01:43	1330-20-7	
cis-1,2-Dichloroethene	1.6	ug/L	0.50	0.15	1		06/25/19 01:43	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/25/19 01:43	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/25/19 01:43	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/25/19 01:43	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/25/19 01:43	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/25/19 01:43	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/25/19 01:43	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-136		1		06/25/19 01:43	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		06/25/19 01:43	2037-26-5	
4-Bromofluorobenzene (S)	94	%	75-125		1		06/25/19 01:43	460-00-4	
353.2 Nitrate + Nitrite pres.		Analytical Method: EPA 353.2							
Nitrogen, NO2 plus NO3	0.35	mg/L	0.020	0.0068	1		06/28/19 12:22		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: TRIP BLANK 1 Lab ID: 10479716030 Collected: 06/10/19 00:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 12:46	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 12:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 12:46	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 12:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 12:46	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 12:46	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 12:46	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 12:46	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 12:46	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 12:46	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 12:46	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 12:46	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 12:46	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 12:46	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 12:46	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 12:46	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 12:46	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 12:46	591-78-6	
2-Propanol	38.7J	ug/L	100	11.4	1		06/19/19 12:46	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 12:46	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 12:46	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 12:46	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 12:46	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 12:46	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 12:46	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 12:46	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 12:46	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 12:46	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 12:46	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 12:46	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 12:46	75-00-3	
Chloroform	1.7	ug/L	1.0	0.45	1		06/19/19 12:46	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 12:46	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 12:46	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 12:46	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 12:46	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 12:46	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 12:46	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 12:46	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 12:46	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 12:46	1634-04-4	
Methylene Chloride	2.3J	ug/L	4.0	0.98	1		06/19/19 12:46	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 12:46	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 12:46	127-18-4	
Tetrahydrofuran	7.7J	ug/L	10.0	2.2	1		06/19/19 12:46	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 12:46	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: TRIP BLANK 1 **Lab ID: 10479716030** Collected: 06/10/19 00:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 12:46	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 12:46	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 12:46	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 12:46	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 12:46	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 12:46	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 12:46	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 12:46	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 12:46	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 12:46	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 12:46	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 12:46	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-136		1		06/19/19 12:46	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 12:46	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		06/19/19 12:46	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: TRIP BLANK 2 Lab ID: 10479716031 Collected: 06/10/19 00:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.20	ug/L	0.50	0.20	1		06/19/19 13:10	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/19/19 13:10	71-55-6	
1,1,2,2-Tetrachloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:10	79-34-5	
1,1,2-Trichloroethane	<0.18	ug/L	0.50	0.18	1		06/19/19 13:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.22	ug/L	1.0	0.22	1		06/19/19 13:10	76-13-1	
1,1-Dichloroethane	<0.17	ug/L	0.50	0.17	1		06/19/19 13:10	75-34-3	
1,1-Dichloroethene	<0.16	ug/L	1.0	0.16	1		06/19/19 13:10	75-35-4	
1,2,3-Trichloropropane	<0.26	ug/L	4.0	0.26	1		06/19/19 13:10	96-18-4	
1,2,4-Trimethylbenzene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:10	95-63-6	
1,2-Dibromo-3-chloropropane	<1.7	ug/L	4.0	1.7	1		06/19/19 13:10	96-12-8	
1,2-Dibromoethane (EDB)	<0.24	ug/L	0.50	0.24	1		06/19/19 13:10	106-93-4	
1,2-Dichlorobenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:10	95-50-1	
1,2-Dichloroethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:10	107-06-2	
1,2-Dichloropropane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:10	78-87-5	
1,4-Dichlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:10	106-46-7	
1,4-Dioxane (p-Dioxane)	<16.3	ug/L	200	16.3	1		06/19/19 13:10	123-91-1	
2-Butanone (MEK)	<0.99	ug/L	5.0	0.99	1		06/19/19 13:10	78-93-3	
2-Hexanone	<0.88	ug/L	5.0	0.88	1		06/19/19 13:10	591-78-6	
2-Propanol	18.2J	ug/L	100	11.4	1		06/19/19 13:10	67-63-0	
4-Methyl-2-pentanone (MIBK)	<0.42	ug/L	5.0	0.42	1		06/19/19 13:10	108-10-1	
Acetone	<9.2	ug/L	20.0	9.2	1		06/19/19 13:10	67-64-1	
Acrylonitrile	<0.91	ug/L	10.0	0.91	1		06/19/19 13:10	107-13-1	
Benzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:10	71-43-2	
Bromochloromethane	<0.27	ug/L	1.0	0.27	1		06/19/19 13:10	74-97-5	
Bromodichloromethane	<0.22	ug/L	0.50	0.22	1		06/19/19 13:10	75-27-4	
Bromoform	<0.80	ug/L	4.0	0.80	1		06/19/19 13:10	75-25-2	
Bromomethane	<1.8	ug/L	4.0	1.8	1		06/19/19 13:10	74-83-9	
Carbon disulfide	<0.078	ug/L	1.0	0.078	1		06/19/19 13:10	75-15-0	
Carbon tetrachloride	<0.19	ug/L	0.50	0.19	1		06/19/19 13:10	56-23-5	
Chlorobenzene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:10	108-90-7	
Chloroethane	<0.49	ug/L	1.0	0.49	1		06/19/19 13:10	75-00-3	
Chloroform	<0.45	ug/L	1.0	0.45	1		06/19/19 13:10	67-66-3	
Chloromethane	<0.16	ug/L	4.0	0.16	1		06/19/19 13:10	74-87-3	
Cyclohexane	<0.54	ug/L	5.0	0.54	1		06/19/19 13:10	110-82-7	N2
Dibromochloromethane	<0.12	ug/L	1.0	0.12	1		06/19/19 13:10	124-48-1	
Dibromomethane	<0.16	ug/L	1.0	0.16	1		06/19/19 13:10	74-95-3	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		06/19/19 13:10	75-71-8	
Ethylbenzene	<0.14	ug/L	0.50	0.14	1		06/19/19 13:10	100-41-4	
Iodomethane	<0.82	ug/L	4.0	0.82	1		06/19/19 13:10	74-88-4	
Isopropylbenzene (Cumene)	<0.18	ug/L	1.0	0.18	1		06/19/19 13:10	98-82-8	
Methyl-tert-butyl ether	<0.16	ug/L	0.50	0.16	1		06/19/19 13:10	1634-04-4	
Methylene Chloride	4.8	ug/L	4.0	0.98	1		06/19/19 13:10	75-09-2	
Styrene	<0.19	ug/L	0.50	0.19	1		06/19/19 13:10	100-42-5	
Tetrachloroethene	<0.17	ug/L	0.50	0.17	1		06/19/19 13:10	127-18-4	
Tetrahydrofuran	<2.2	ug/L	10.0	2.2	1		06/19/19 13:10	109-99-9	
Toluene	<0.083	ug/L	0.50	0.083	1		06/19/19 13:10	108-88-3	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

ANALYTICAL RESULTS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Sample: TRIP BLANK 2 **Lab ID: 10479716031** Collected: 06/10/19 00:00 Received: 06/18/19 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Trichloroethene	<0.15	ug/L	0.40	0.15	1		06/19/19 13:10	79-01-6	
Trichlorofluoromethane	<0.23	ug/L	0.50	0.23	1		06/19/19 13:10	75-69-4	
Vinyl acetate	<1.1	ug/L	10.0	1.1	1		06/19/19 13:10	108-05-4	
Vinyl chloride	<0.092	ug/L	0.20	0.092	1		06/19/19 13:10	75-01-4	
Xylene (Total)	<0.31	ug/L	1.5	0.31	1		06/19/19 13:10	1330-20-7	
cis-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		06/19/19 13:10	156-59-2	
cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	1		06/19/19 13:10	10061-01-5	
n-Hexane	<0.93	ug/L	10.0	0.93	1		06/19/19 13:10	110-54-3	
n-Propylbenzene	<0.10	ug/L	0.50	0.10	1		06/19/19 13:10	103-65-1	
trans-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		06/19/19 13:10	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	1		06/19/19 13:10	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.0	ug/L	10.0	2.0	1		06/19/19 13:10	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-136		1		06/19/19 13:10	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/19/19 13:10	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		06/19/19 13:10	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10479716

QC Batch: 614038 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716007, 10479716008, 10479716009, 10479716012, 10479716013, 10479716015, 10479716016, 10479716017, 10479716018, 10479716020, 10479716027, 10479716028, 10479716030, 10479716031

METHOD BLANK: 3317448 Matrix: Water
Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716007, 10479716008, 10479716009, 10479716012, 10479716013, 10479716015, 10479716016, 10479716017, 10479716018, 10479716020, 10479716027, 10479716028, 10479716030, 10479716031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	06/19/19 12:22	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	06/19/19 12:22	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	06/19/19 12:22	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	06/19/19 12:22	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	06/19/19 12:22	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	06/19/19 12:22	
1,1-Dichloroethene	ug/L	<0.16	1.0	0.16	06/19/19 12:22	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	06/19/19 12:22	
1,2,4-Trimethylbenzene	ug/L	<0.20	1.0	0.20	06/19/19 12:22	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	06/19/19 12:22	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	06/19/19 12:22	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	06/19/19 12:22	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	06/19/19 12:22	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	06/19/19 12:22	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	06/19/19 12:22	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	06/19/19 12:22	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	06/19/19 12:22	
2-Hexanone	ug/L	<0.88	5.0	0.88	06/19/19 12:22	
2-Propanol	ug/L	<11.4	100	11.4	06/19/19 12:22	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	06/19/19 12:22	
Acetone	ug/L	<9.2	20.0	9.2	06/19/19 12:22	
Acrylonitrile	ug/L	<0.91	10.0	0.91	06/19/19 12:22	
Benzene	ug/L	<0.10	0.50	0.10	06/19/19 12:22	
Bromochloromethane	ug/L	<0.27	1.0	0.27	06/19/19 12:22	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	06/19/19 12:22	
Bromoform	ug/L	<0.80	4.0	0.80	06/19/19 12:22	
Bromomethane	ug/L	<1.8	4.0	1.8	06/19/19 12:22	
Carbon disulfide	ug/L	<0.078	1.0	0.078	06/19/19 12:22	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	06/19/19 12:22	
Chlorobenzene	ug/L	<0.17	0.50	0.17	06/19/19 12:22	
Chloroethane	ug/L	<0.49	1.0	0.49	06/19/19 12:22	
Chloroform	ug/L	<0.45	1.0	0.45	06/19/19 12:22	
Chloromethane	ug/L	<0.16	4.0	0.16	06/19/19 12:22	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	06/19/19 12:22	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	06/19/19 12:22	
Cyclohexane	ug/L	<0.54	5.0	0.54	06/19/19 12:22	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	06/19/19 12:22	
Dibromomethane	ug/L	<0.16	1.0	0.16	06/19/19 12:22	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

METHOD BLANK: 3317448

Matrix: Water

Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716007, 10479716008, 10479716009, 10479716012, 10479716013, 10479716015, 10479716016, 10479716017, 10479716018, 10479716020, 10479716027, 10479716028, 10479716030, 10479716031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	06/19/19 12:22	
Ethylbenzene	ug/L	<0.14	0.50	0.14	06/19/19 12:22	
Iodomethane	ug/L	<0.82	4.0	0.82	06/19/19 12:22	
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	06/19/19 12:22	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	06/19/19 12:22	
Methylene Chloride	ug/L	<0.98	4.0	0.98	06/19/19 12:22	
n-Hexane	ug/L	<0.93	10.0	0.93	06/19/19 12:22	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	06/19/19 12:22	
Styrene	ug/L	<0.19	0.50	0.19	06/19/19 12:22	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	06/19/19 12:22	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	06/19/19 12:22	
Toluene	ug/L	<0.083	0.50	0.083	06/19/19 12:22	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	06/19/19 12:22	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	06/19/19 12:22	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	06/19/19 12:22	
Trichloroethene	ug/L	<0.15	0.40	0.15	06/19/19 12:22	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	06/19/19 12:22	
Vinyl acetate	ug/L	<1.1	10.0	1.1	06/19/19 12:22	
Vinyl chloride	ug/L	<0.092	0.20	0.092	06/19/19 12:22	
Xylene (Total)	ug/L	<0.31	1.5	0.31	06/19/19 12:22	
1,2-Dichloroethane-d4 (S)	%	94	75-136		06/19/19 12:22	
4-Bromofluorobenzene (S)	%	98	75-125		06/19/19 12:22	
Toluene-d8 (S)	%	100	75-125		06/19/19 12:22	

LABORATORY CONTROL SAMPLE: 3317449

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.7	98	68-141	
1,1,1-Trichloroethane	ug/L	20	20.3	101	75-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	73-125	
1,1,2-Trichloroethane	ug/L	20	22.2	111	74-131	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.1	105	69-132	
1,1-Dichloroethane	ug/L	20	20.1	100	73-125	
1,1-Dichloroethene	ug/L	20	18.7	94	71-126	
1,2,3-Trichloropropane	ug/L	20	21.4	107	75-126	
1,2,4-Trimethylbenzene	ug/L	20	19.5	98	72-134	
1,2-Dibromo-3-chloropropane	ug/L	50	51.2	102	60-135	
1,2-Dibromoethane (EDB)	ug/L	20	22.5	112	75-129	
1,2-Dichlorobenzene	ug/L	20	19.1	95	75-129	
1,2-Dichloroethane	ug/L	20	19.5	98	75-125	
1,2-Dichloropropane	ug/L	20	23.3	117	75-125	
1,4-Dichlorobenzene	ug/L	20	19.7	98	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

LABORATORY CONTROL SAMPLE: 3317449

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dioxane (p-Dioxane)	ug/L	400	439	110	72-129	
2-Butanone (MEK)	ug/L	100	127	127	59-144	
2-Hexanone	ug/L	100	141	141	73-134	CH,L1
2-Propanol	ug/L	200	180	90	68-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	115	115	62-141	
Acetone	ug/L	100	144	144	60-137	CH,L3
Acrylonitrile	ug/L	200	217	108	75-129	
Benzene	ug/L	20	20.1	100	73-125	
Bromochloromethane	ug/L	20	21.0	105	75-135	
Bromodichloromethane	ug/L	20	21.6	108	75-125	
Bromoform	ug/L	20	22.4	112	67-136	
Bromomethane	ug/L	20	14.2	71	30-150	
Carbon disulfide	ug/L	20	14.7	73	47-137	
Carbon tetrachloride	ug/L	20	22.0	110	75-125	
Chlorobenzene	ug/L	20	19.0	95	75-125	
Chloroethane	ug/L	20	19.3	96	63-136	
Chloroform	ug/L	20	20.2	101	73-128	
Chloromethane	ug/L	20	17.0	85	55-130	
cis-1,2-Dichloroethene	ug/L	20	20.6	103	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.2	101	74-125	
Cyclohexane	ug/L	100	90.1	90	67-125	N2
Dibromochloromethane	ug/L	20	19.5	98	75-125	
Dibromomethane	ug/L	20	20.7	103	75-125	
Dichlorodifluoromethane	ug/L	20	16.9	84	63-132	
Ethylbenzene	ug/L	20	20.8	104	75-125	
Iodomethane	ug/L	20	15.2	76	72-125	
Isopropylbenzene (Cumene)	ug/L	20	19.6	98	75-125	
Methyl-tert-butyl ether	ug/L	20	20.2	101	75-125	
Methylene Chloride	ug/L	20	19.6	98	70-125	
n-Hexane	ug/L	50	46.3	93	51-150	
n-Propylbenzene	ug/L	20	20.7	104	73-127	
Styrene	ug/L	20	20.7	103	75-125	
Tetrachloroethene	ug/L	20	19.3	97	74-125	
Tetrahydrofuran	ug/L	200	237	118	64-138	
Toluene	ug/L	20	20.1	100	74-125	
trans-1,2-Dichloroethene	ug/L	20	19.5	97	68-128	
trans-1,3-Dichloropropene	ug/L	20	20.0	100	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	58.9	118	60-127	
Trichloroethene	ug/L	20	21.2	106	75-127	
Trichlorofluoromethane	ug/L	20	15.8	79	72-133	
Vinyl acetate	ug/L	20	19.9	100	61-129	
Vinyl chloride	ug/L	20	18.1	91	75-128	
Xylene (Total)	ug/L	60	61.4	102	75-125	
1,2-Dichloroethane-d4 (S)	%			98	75-136	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			95	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3317451 3317452													
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10479716004 Result	Spike Conc.	Spike Conc.	MS Conc.								
1,1,1,2-Tetrachloroethane	ug/L	<0.20	20	20	17.1	19.3	86	97	75-140	12	30		
1,1,1-Trichloroethane	ug/L	<0.14	20	20	15.3	17.3	77	86	74-136	12	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.17	20	20	18.9	22.2	95	111	66-134	16	30		
1,1,2-Trichloroethane	ug/L	<0.18	20	20	18.3	21.2	91	106	75-126	15	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	20	20	14.6	17.0	73	85	65-146	15	30		
1,1-Dichloroethane	ug/L	<0.17	20	20	14.6	16.0	73	80	68-132	9	30		
1,1-Dichloroethene	ug/L	<0.16	20	20	11.4	12.1	57	61	66-139	6	30	M1	
1,2,3-Trichloropropane	ug/L	<0.26	20	20	18.1	21.1	91	105	69-128	15	30		
1,2,4-Trimethylbenzene	ug/L	<0.20	20	20	17.6	20.1	88	101	71-133	14	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	44.9	55.0	90	110	54-138	20	30		
1,2-Dibromoethane (EDB)	ug/L	<0.24	20	20	17.8	19.5	89	98	68-125	9	30		
1,2-Dichlorobenzene	ug/L	<0.14	20	20	17.3	20.2	87	101	74-136	15	30		
1,2-Dichloroethane	ug/L	<0.22	20	20	13.7	15.5	68	78	68-125	13	30		
1,2-Dichloropropane	ug/L	<0.16	20	20	18.6	24.2	93	121	67-125	26	30		
1,4-Dichlorobenzene	ug/L	<0.17	20	20	17.9	20.0	89	100	74-126	11	30		
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	400	400	363	342	91	85	68-125	6	30		
2-Butanone (MEK)	ug/L	<0.99	100	100	72.8	94.9	73	95	54-144	26	30		
2-Hexanone	ug/L	<0.88	100	100	91.3	115	91	115	58-137	23	30	CH	
2-Propanol	ug/L	<11.4	200	200	156	192	78	96	40-150	21	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	100	100	92.5	114	92	114	60-129	21	30		
Acetone	ug/L	<9.2	100	100	82.9	91.0	83	91	62-132	9	30	CH	
Acrylonitrile	ug/L	<0.91	200	200	155	185	77	92	68-125	18	30		
Benzene	ug/L	<0.10	20	20	14.4	15.6	72	78	68-125	8	30		
Bromochloromethane	ug/L	<0.27	20	20	14.0	15.6	70	78	66-143	11	30		
Bromodichloromethane	ug/L	<0.22	20	20	18.1	22.8	90	114	74-125	23	30		
Bromoform	ug/L	<0.80	20	20	19.1	22.0	96	110	64-134	14	30		
Bromomethane	ug/L	<1.8	20	20	16.4	15.6	82	78	30-150	5	30		
Carbon disulfide	ug/L	<0.078	20	20	5.1	5.0	26	25	43-147	2	30	M1	
Carbon tetrachloride	ug/L	<0.19	20	20	16.0	18.1	80	91	71-143	13	30		
Chlorobenzene	ug/L	<0.17	20	20	16.1	17.3	80	86	75-125	7	30		
Chloroethane	ug/L	<0.49	20	20	20.6	19.3	103	97	75-129	7	30		
Chloroform	ug/L	<0.45	20	20	14.7	16.4	74	82	66-132	11	30		
Chloromethane	ug/L	<0.16	20	20	19.4	17.2	97	86	53-137	12	30		
cis-1,2-Dichloroethene	ug/L	<0.15	20	20	14.4	16.0	72	80	67-133	10	30		
cis-1,3-Dichloropropene	ug/L	<0.20	20	20	15.8	20.1	79	100	66-125	24	30		
Cyclohexane	ug/L	<0.54	100	100	51.0	59.9	51	60	74-146	16	30	M1,N2	
Dibromochloromethane	ug/L	<0.12	20	20	16.7	18.3	84	91	62-132	9	30		
Dibromomethane	ug/L	<0.16	20	20	16.0	20.8	80	104	67-125	26	30		
Dichlorodifluoromethane	ug/L	<0.23	20	20	20.6	18.2	103	91	71-142	12	30		
Ethylbenzene	ug/L	<0.14	20	20	17.8	19.8	89	99	74-126	11	30		
Iodomethane	ug/L	<0.82	20	20	11.3	11.1	56	55	70-139	1	30	M1	
Isopropylbenzene (Cumene)	ug/L	<0.18	20	20	17.5	19.7	87	98	74-130	12	30		
Methyl-tert-butyl ether	ug/L	<0.16	20	20	13.8	16.9	69	85	65-131	21	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Parameter	Units	10479716004		3317451		3317452		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
Methylene Chloride	ug/L	<0.98	20	20	12.3	14.2	61	71	57-125	14	30			
n-Hexane	ug/L	<0.93	50	50	22.9	20.9	46	42	30-150	9	30			
n-Propylbenzene	ug/L	<0.10	20	20	18.9	21.3	95	107	67-138	12	30			
Styrene	ug/L	<0.19	20	20	17.8	19.8	89	99	72-125	11	30			
Tetrachloroethene	ug/L	<0.17	20	20	15.3	17.2	76	86	72-129	12	30			
Tetrahydrofuran	ug/L	<2.2	200	200	177	186	88	93	66-128	5	30			
Toluene	ug/L	<0.083	20	20	16.1	17.1	81	86	73-125	6	30			
trans-1,2-Dichloroethene	ug/L	<0.12	20	20	12.1	12.8	60	64	62-137	6	30	M1		
trans-1,3-Dichloropropene	ug/L	<0.18	20	20	16.6	18.3	83	91	61-136	10	30			
trans-1,4-Dichloro-2-butene	ug/L	<2.0	50	50	52.6	61.3	105	123	45-128	15	30			
Trichloroethene	ug/L	<0.15	20	20	16.5	16.8	82	84	74-132	2	30			
Trichlorofluoromethane	ug/L	<0.23	20	20	18.8	16.6	94	83	75-139	12	30			
Vinyl acetate	ug/L	<1.1	20	20	14.0	16.6	70	83	51-135	17	30			
Vinyl chloride	ug/L	<0.092	20	20	21.0	18.5	105	92	68-146	13	30			
Xylene (Total)	ug/L	<0.31	60	60	52.3	57.8	87	96	67-137	10	30			
1,2-Dichloroethane-d4 (S)	%						90	94	75-136					
4-Bromofluorobenzene (S)	%						101	100	75-125					
Toluene-d8 (S)	%						98	97	75-125					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

QC Batch: 615008

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV LL Water

Associated Lab Samples: 10479716010, 10479716011, 10479716014, 10479716021, 10479716025, 10479716026

METHOD BLANK: 3322903

Matrix: Water

Associated Lab Samples: 10479716010, 10479716011, 10479716014, 10479716021, 10479716025, 10479716026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	06/24/19 10:20	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	06/24/19 10:20	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	06/24/19 10:20	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	06/24/19 10:20	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	06/24/19 10:20	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	06/24/19 10:20	
1,1-Dichloroethene	ug/L	<0.16	1.0	0.16	06/24/19 10:20	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	06/24/19 10:20	
1,2,4-Trimethylbenzene	ug/L	<0.20	1.0	0.20	06/24/19 10:20	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	06/24/19 10:20	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	06/24/19 10:20	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	06/24/19 10:20	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	06/24/19 10:20	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	06/24/19 10:20	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	06/24/19 10:20	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	06/24/19 10:20	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	06/24/19 10:20	
2-Hexanone	ug/L	<0.88	5.0	0.88	06/24/19 10:20	
2-Propanol	ug/L	<11.4	100	11.4	06/24/19 10:20	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	06/24/19 10:20	
Acetone	ug/L	<9.2	20.0	9.2	06/24/19 10:20	
Acrylonitrile	ug/L	<0.91	10.0	0.91	06/24/19 10:20	
Benzene	ug/L	<0.10	0.50	0.10	06/24/19 10:20	
Bromochloromethane	ug/L	<0.27	1.0	0.27	06/24/19 10:20	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	06/24/19 10:20	
Bromoform	ug/L	<0.80	4.0	0.80	06/24/19 10:20	
Bromomethane	ug/L	<1.8	4.0	1.8	06/24/19 10:20	
Carbon disulfide	ug/L	<0.078	1.0	0.078	06/24/19 10:20	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	06/24/19 10:20	
Chlorobenzene	ug/L	<0.17	0.50	0.17	06/24/19 10:20	
Chloroethane	ug/L	<0.49	1.0	0.49	06/24/19 10:20	
Chloroform	ug/L	<0.45	1.0	0.45	06/24/19 10:20	
Chloromethane	ug/L	<0.16	4.0	0.16	06/24/19 10:20	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	06/24/19 10:20	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	06/24/19 10:20	
Cyclohexane	ug/L	<0.54	5.0	0.54	06/24/19 10:20	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	06/24/19 10:20	
Dibromomethane	ug/L	<0.16	1.0	0.16	06/24/19 10:20	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	06/24/19 10:20	
Ethylbenzene	ug/L	<0.14	0.50	0.14	06/24/19 10:20	
Iodomethane	ug/L	<0.82	4.0	0.82	06/24/19 10:20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

METHOD BLANK: 3322903

Matrix: Water

Associated Lab Samples: 10479716010, 10479716011, 10479716014, 10479716021, 10479716025, 10479716026

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	06/24/19 10:20	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	06/24/19 10:20	
Methylene Chloride	ug/L	<0.98	4.0	0.98	06/24/19 10:20	
n-Hexane	ug/L	<0.93	10.0	0.93	06/24/19 10:20	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	06/24/19 10:20	
Styrene	ug/L	<0.19	0.50	0.19	06/24/19 10:20	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	06/24/19 10:20	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	06/24/19 10:20	
Toluene	ug/L	<0.083	0.50	0.083	06/24/19 10:20	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	06/24/19 10:20	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	06/24/19 10:20	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	06/24/19 10:20	
Trichloroethene	ug/L	<0.15	0.40	0.15	06/24/19 10:20	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	06/24/19 10:20	
Vinyl acetate	ug/L	<1.1	10.0	1.1	06/24/19 10:20	
Vinyl chloride	ug/L	<0.092	0.20	0.092	06/24/19 10:20	
Xylene (Total)	ug/L	<0.31	1.5	0.31	06/24/19 10:20	
1,2-Dichloroethane-d4 (S)	%	99	75-136		06/24/19 10:20	
4-Bromofluorobenzene (S)	%	95	75-125		06/24/19 10:20	
Toluene-d8 (S)	%	100	75-125		06/24/19 10:20	

LABORATORY CONTROL SAMPLE: 3322904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.3	101	68-141	
1,1,1-Trichloroethane	ug/L	20	23.3	116	75-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.2	101	73-125	
1,1,2-Trichloroethane	ug/L	20	22.1	111	74-131	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.3	106	69-132	
1,1-Dichloroethane	ug/L	20	21.5	108	73-125	
1,1-Dichloroethene	ug/L	20	20.4	102	71-126	
1,2,3-Trichloropropane	ug/L	20	20.2	101	75-126	
1,2,4-Trimethylbenzene	ug/L	20	18.7	93	72-134	
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	94	60-135	
1,2-Dibromoethane (EDB)	ug/L	20	22.8	114	75-129	
1,2-Dichlorobenzene	ug/L	20	17.5	88	75-129	
1,2-Dichloroethane	ug/L	20	21.3	106	75-125	
1,2-Dichloropropane	ug/L	20	23.1	115	75-125	
1,4-Dichlorobenzene	ug/L	20	17.9	89	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	470	117	72-129	
2-Butanone (MEK)	ug/L	100	115	115	59-144	
2-Hexanone	ug/L	100	124	124	73-134	
2-Propanol	ug/L	200	208	104	68-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	62-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

LABORATORY CONTROL SAMPLE: 3322904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	148	148	60-137	CH,L3
Acrylonitrile	ug/L	200	211	105	75-129	
Benzene	ug/L	20	21.2	106	73-125	
Bromochloromethane	ug/L	20	22.7	113	75-135	
Bromodichloromethane	ug/L	20	23.9	119	75-125	
Bromoform	ug/L	20	23.2	116	67-136	
Bromomethane	ug/L	20	23.2	116	30-150	
Carbon disulfide	ug/L	20	19.8	99	47-137	
Carbon tetrachloride	ug/L	20	24.5	123	75-125	
Chlorobenzene	ug/L	20	19.3	96	75-125	
Chloroethane	ug/L	20	23.7	118	63-136	
Chloroform	ug/L	20	21.9	110	73-128	
Chloromethane	ug/L	20	23.3	116	55-130	
cis-1,2-Dichloroethene	ug/L	20	21.9	110	75-125	
cis-1,3-Dichloropropene	ug/L	20	22.4	112	74-125	
Cyclohexane	ug/L	100	101	101	67-125	N2
Dibromochloromethane	ug/L	20	20.9	104	75-125	
Dibromomethane	ug/L	20	22.6	113	75-125	
Dichlorodifluoromethane	ug/L	20	21.9	110	63-132	
Ethylbenzene	ug/L	20	20.7	104	75-125	
Iodomethane	ug/L	20	18.6	93	72-125	
Isopropylbenzene (Cumene)	ug/L	20	19.3	97	75-125	
Methyl-tert-butyl ether	ug/L	20	21.6	108	75-125	
Methylene Chloride	ug/L	20	21.2	106	70-125	
n-Hexane	ug/L	50	54.6	109	51-150	
n-Propylbenzene	ug/L	20	19.3	97	73-127	
Styrene	ug/L	20	20.6	103	75-125	
Tetrachloroethene	ug/L	20	19.3	97	74-125	
Tetrahydrofuran	ug/L	200	243	121	64-138	
Toluene	ug/L	20	20.1	101	74-125	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	68-128	
trans-1,3-Dichloropropene	ug/L	20	20.8	104	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	60.0	120	60-127	
Trichloroethene	ug/L	20	21.6	108	75-127	
Trichlorofluoromethane	ug/L	20	20.4	102	72-133	
Vinyl acetate	ug/L	20	20.8	104	61-129	
Vinyl chloride	ug/L	20	22.7	113	75-128	
Xylene (Total)	ug/L	60	59.4	99	75-125	
1,2-Dichloroethane-d4 (S)	%			100	75-136	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			95	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3322905												3322906											
Parameter	Units	10479716010		MS	MSD	MS		MSD		% Rec Limits	RPD	Max RPD	Qual										
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec														
1,1,1,2-Tetrachloroethane	ug/L	<0.20	20	20	20	20.1	20.6	101	103	75-140	2	30											
1,1,1-Trichloroethane	ug/L	<0.14	20	20	20	20.3	23.3	102	117	74-136	14	30											
1,1,2,2-Tetrachloroethane	ug/L	<0.17	20	20	20	19.3	21.2	97	106	66-134	9	30											
1,1,2-Trichloroethane	ug/L	<0.18	20	20	20	22.1	22.3	110	112	75-126	1	30											
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	20	20	20	19.3	22.9	97	115	65-146	17	30											
1,1-Dichloroethane	ug/L	<0.17	20	20	20	18.4	20.5	92	102	68-132	11	30											
1,1-Dichloroethene	ug/L	<0.16	20	20	20	17.2	18.7	86	93	66-139	8	30											
1,2,3-Trichloropropane	ug/L	<0.26	20	20	20	19.4	20.6	97	103	69-128	6	30											
1,2,4-Trimethylbenzene	ug/L	<0.20	20	20	20	19.0	20.6	95	103	71-133	8	30											
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	50	46.0	51.6	92	103	54-138	11	30											
1,2-Dibromoethane (EDB)	ug/L	<0.24	20	20	20	21.4	21.4	107	107	68-125	0	30											
1,2-Dichlorobenzene	ug/L	<0.14	20	20	20	18.4	20.4	92	102	74-136	11	30											
1,2-Dichloroethane	ug/L	<0.22	20	20	20	16.5	18.8	82	94	68-125	13	30											
1,2-Dichloropropane	ug/L	<0.16	20	20	20	22.5	23.0	112	115	67-125	2	30											
1,4-Dichlorobenzene	ug/L	<0.17	20	20	20	18.5	20.4	92	102	74-126	10	30											
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	400	400	400	438	444	109	111	68-125	2	30											
2-Butanone (MEK)	ug/L	<0.99	100	100	100	81.0	91.6	81	92	54-144	12	30											
2-Hexanone	ug/L	<0.88	100	100	100	102	106	102	106	58-137	4	30											
2-Propanol	ug/L	<11.4	200	200	200	198	209	99	105	40-150	5	30											
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	100	100	100	101	106	101	106	60-129	5	30											
Acetone	ug/L	<9.2	100	100	100	100	102	100	102	62-132	2	30	CH										
Acrylonitrile	ug/L	<0.91	200	200	200	174	201	87	100	68-125	14	30											
Benzene	ug/L	<0.10	20	20	20	16.8	19.1	84	95	68-125	12	30											
Bromochloromethane	ug/L	<0.27	20	20	20	18.3	20.3	91	102	66-143	11	30											
Bromodichloromethane	ug/L	<0.22	20	20	20	23.5	23.2	118	116	74-125	1	30											
Bromoform	ug/L	<0.80	20	20	20	22.3	22.7	112	113	64-134	2	30											
Bromomethane	ug/L	<1.8	20	20	20	20.5	24.1	103	121	30-150	16	30											
Carbon disulfide	ug/L	<0.078	20	20	20	12.8	12.8	64	64	43-147	0	30											
Carbon tetrachloride	ug/L	<0.19	20	20	20	21.7	25.2	109	126	71-143	15	30											
Chlorobenzene	ug/L	<0.17	20	20	20	18.9	19.3	95	97	75-125	2	30											
Chloroethane	ug/L	<0.49	20	20	20	23.6	25.7	118	128	75-129	8	30											
Chloroform	ug/L	<0.45	20	20	20	18.1	20.1	90	101	66-132	11	30											
Chloromethane	ug/L	<0.16	20	20	20	21.3	24.2	106	121	53-137	13	30											
cis-1,2-Dichloroethene	ug/L	0.95	20	20	20	19.4	22.0	92	105	67-133	12	30											
cis-1,3-Dichloropropene	ug/L	<0.20	20	20	20	20.8	20.2	104	101	66-125	3	30											
Cyclohexane	ug/L	<0.54	100	100	100	81.0	99.4	81	99	74-146	20	30	N2										
Dibromochloromethane	ug/L	<0.12	20	20	20	20.7	21.2	104	106	62-132	2	30											
Dibromomethane	ug/L	<0.16	20	20	20	20.9	21.2	104	106	67-125	1	30											
Dichlorodifluoromethane	ug/L	<0.23	20	20	20	21.5	25.4	106	126	71-142	17	30											
Ethylbenzene	ug/L	<0.14	20	20	20	21.2	21.7	106	109	74-126	2	30											
Iodomethane	ug/L	<0.82	20	20	20	16.6	17.6	83	88	70-139	6	30											
Isopropylbenzene (Cumene)	ug/L	<0.18	20	20	20	20.1	21.5	101	108	74-130	7	30											
Methyl-tert-butyl ether	ug/L	<0.16	20	20	20	17.1	20.3	86	101	65-131	17	30											

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Parameter	Units	3322905		3322906		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
Methylene Chloride	ug/L	<0.98	20	20	17.1	18.6	85	93	57-125	8	30		
n-Hexane	ug/L	<0.93	50	50	44.4	48.8	89	98	30-150	9	30		
n-Propylbenzene	ug/L	<0.10	20	20	19.9	22.4	99	112	67-138	12	30		
Styrene	ug/L	<0.19	20	20	20.0	20.9	100	105	72-125	5	30		
Tetrachloroethene	ug/L	0.68	20	20	20.2	22.1	98	107	72-129	9	30		
Tetrahydrofuran	ug/L	<2.2	200	200	220	241	110	120	66-128	9	30		
Toluene	ug/L	<0.083	20	20	20.0	19.9	100	100	73-125	0	30		
trans-1,2-Dichloroethene	ug/L	<0.12	20	20	17.8	18.4	89	92	62-137	4	30		
trans-1,3-Dichloropropene	ug/L	<0.18	20	20	20.1	20.0	100	100	61-136	1	30		
trans-1,4-Dichloro-2-butene	ug/L	<2.0	50	50	58.0	60.3	116	121	45-128	4	30		
Trichloroethene	ug/L	0.24J	20	20	21.8	21.9	108	108	74-132	0	30		
Trichlorofluoromethane	ug/L	<0.23	20	20	20.0	23.6	100	118	75-139	16	30		
Vinyl acetate	ug/L	<1.1	20	20	17.0	20.0	85	100	51-135	16	30		
Vinyl chloride	ug/L	<0.092	20	20	23.2	25.5	116	127	68-146	9	30		
Xylene (Total)	ug/L	<0.31	60	60	58.9	61.8	98	103	67-137	5	30		
1,2-Dichloroethane-d4 (S)	%						81	101	75-136				
4-Bromofluorobenzene (S)	%						98	99	75-125				
Toluene-d8 (S)	%						95	93	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

QC Batch:	615092	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260 MSV LL Water
Associated Lab Samples:	10479716005, 10479716006, 10479716019, 10479716022, 10479716023, 10479716024, 10479716029		

METHOD BLANK:	3323288	Matrix:	Water
Associated Lab Samples:	10479716005, 10479716006, 10479716019, 10479716022, 10479716023, 10479716024, 10479716029		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.20	0.50	0.20	06/24/19 21:23	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	06/24/19 21:23	
1,1,2,2-Tetrachloroethane	ug/L	<0.17	0.50	0.17	06/24/19 21:23	
1,1,2-Trichloroethane	ug/L	<0.18	0.50	0.18	06/24/19 21:23	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.22	1.0	0.22	06/24/19 21:23	
1,1-Dichloroethane	ug/L	<0.17	0.50	0.17	06/24/19 21:23	
1,1-Dichloroethene	ug/L	<0.16	1.0	0.16	06/24/19 21:23	
1,2,3-Trichloropropane	ug/L	<0.26	4.0	0.26	06/24/19 21:23	
1,2,4-Trimethylbenzene	ug/L	<0.20	1.0	0.20	06/24/19 21:23	
1,2-Dibromo-3-chloropropane	ug/L	<1.7	4.0	1.7	06/24/19 21:23	
1,2-Dibromoethane (EDB)	ug/L	<0.24	0.50	0.24	06/24/19 21:23	
1,2-Dichlorobenzene	ug/L	<0.14	0.50	0.14	06/24/19 21:23	
1,2-Dichloroethane	ug/L	<0.22	0.50	0.22	06/24/19 21:23	
1,2-Dichloropropane	ug/L	<0.16	4.0	0.16	06/24/19 21:23	
1,4-Dichlorobenzene	ug/L	<0.17	0.50	0.17	06/24/19 21:23	
1,4-Dioxane (p-Dioxane)	ug/L	<16.3	200	16.3	06/24/19 21:23	
2-Butanone (MEK)	ug/L	<0.99	5.0	0.99	06/24/19 21:23	
2-Hexanone	ug/L	<0.88	5.0	0.88	06/24/19 21:23	
2-Propanol	ug/L	<11.4	100	11.4	06/24/19 21:23	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.42	5.0	0.42	06/24/19 21:23	
Acetone	ug/L	<9.2	20.0	9.2	06/24/19 21:23	
Acrylonitrile	ug/L	<0.91	10.0	0.91	06/24/19 21:23	
Benzene	ug/L	<0.10	0.50	0.10	06/24/19 21:23	
Bromochloromethane	ug/L	<0.27	1.0	0.27	06/24/19 21:23	
Bromodichloromethane	ug/L	<0.22	0.50	0.22	06/24/19 21:23	
Bromoform	ug/L	<0.80	4.0	0.80	06/24/19 21:23	
Bromomethane	ug/L	<1.8	4.0	1.8	06/24/19 21:23	
Carbon disulfide	ug/L	<0.078	1.0	0.078	06/24/19 21:23	
Carbon tetrachloride	ug/L	<0.19	0.50	0.19	06/24/19 21:23	
Chlorobenzene	ug/L	<0.17	0.50	0.17	06/24/19 21:23	
Chloroethane	ug/L	<0.49	1.0	0.49	06/24/19 21:23	
Chloroform	ug/L	<0.45	1.0	0.45	06/24/19 21:23	
Chloromethane	ug/L	<0.16	4.0	0.16	06/24/19 21:23	
cis-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	06/24/19 21:23	
cis-1,3-Dichloropropene	ug/L	<0.20	1.0	0.20	06/24/19 21:23	
Cyclohexane	ug/L	<0.54	5.0	0.54	06/24/19 21:23	N2
Dibromochloromethane	ug/L	<0.12	1.0	0.12	06/24/19 21:23	
Dibromomethane	ug/L	<0.16	1.0	0.16	06/24/19 21:23	
Dichlorodifluoromethane	ug/L	<0.23	1.0	0.23	06/24/19 21:23	
Ethylbenzene	ug/L	<0.14	0.50	0.14	06/24/19 21:23	
Iodomethane	ug/L	<0.82	4.0	0.82	06/24/19 21:23	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

METHOD BLANK: 3323288

Matrix: Water

Associated Lab Samples: 10479716005, 10479716006, 10479716019, 10479716022, 10479716023, 10479716024, 10479716029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Isopropylbenzene (Cumene)	ug/L	<0.18	1.0	0.18	06/24/19 21:23	
Methyl-tert-butyl ether	ug/L	<0.16	0.50	0.16	06/24/19 21:23	
Methylene Chloride	ug/L	<0.98	4.0	0.98	06/24/19 21:23	
n-Hexane	ug/L	<0.93	10.0	0.93	06/24/19 21:23	
n-Propylbenzene	ug/L	<0.10	0.50	0.10	06/24/19 21:23	
Styrene	ug/L	<0.19	0.50	0.19	06/24/19 21:23	
Tetrachloroethene	ug/L	<0.17	0.50	0.17	06/24/19 21:23	
Tetrahydrofuran	ug/L	<2.2	10.0	2.2	06/24/19 21:23	
Toluene	ug/L	<0.083	0.50	0.083	06/24/19 21:23	
trans-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	06/24/19 21:23	
trans-1,3-Dichloropropene	ug/L	<0.18	1.0	0.18	06/24/19 21:23	
trans-1,4-Dichloro-2-butene	ug/L	<2.0	10.0	2.0	06/24/19 21:23	
Trichloroethene	ug/L	<0.15	0.40	0.15	06/24/19 21:23	
Trichlorofluoromethane	ug/L	<0.23	0.50	0.23	06/24/19 21:23	
Vinyl acetate	ug/L	<1.1	10.0	1.1	06/24/19 21:23	
Vinyl chloride	ug/L	<0.092	0.20	0.092	06/24/19 21:23	
Xylene (Total)	ug/L	<0.31	1.5	0.31	06/24/19 21:23	
1,2-Dichloroethane-d4 (S)	%	97	75-136		06/24/19 21:23	
4-Bromofluorobenzene (S)	%	93	75-125		06/24/19 21:23	
Toluene-d8 (S)	%	103	75-125		06/24/19 21:23	

LABORATORY CONTROL SAMPLE: 3323289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.6	108	68-141	
1,1,1-Trichloroethane	ug/L	20	24.7	123	75-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.7	108	73-125	
1,1,2-Trichloroethane	ug/L	20	23.5	117	74-131	
1,1,2-Trichlorotrifluoroethane	ug/L	20	22.5	113	69-132	
1,1-Dichloroethane	ug/L	20	22.2	111	73-125	
1,1-Dichloroethene	ug/L	20	21.9	109	71-126	
1,2,3-Trichloropropane	ug/L	20	22.7	114	75-126	
1,2,4-Trimethylbenzene	ug/L	20	20.5	103	72-134	
1,2-Dibromo-3-chloropropane	ug/L	50	51.9	104	60-135	
1,2-Dibromoethane (EDB)	ug/L	20	24.3	121	75-129	
1,2-Dichlorobenzene	ug/L	20	19.7	99	75-129	
1,2-Dichloroethane	ug/L	20	21.9	110	75-125	
1,2-Dichloropropane	ug/L	20	23.4	117	75-125	
1,4-Dichlorobenzene	ug/L	20	19.9	99	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	437	109	72-129	
2-Butanone (MEK)	ug/L	100	113	113	59-144	
2-Hexanone	ug/L	100	118	118	73-134	
2-Propanol	ug/L	200	186	93	68-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	62-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

LABORATORY CONTROL SAMPLE: 3323289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	134	134	60-137	
Acrylonitrile	ug/L	200	215	108	75-129	
Benzene	ug/L	20	21.9	109	73-125	
Bromochloromethane	ug/L	20	23.8	119	75-135	
Bromodichloromethane	ug/L	20	24.3	121	75-125	
Bromoform	ug/L	20	25.0	125	67-136	
Bromomethane	ug/L	20	23.6	118	30-150	
Carbon disulfide	ug/L	20	19.9	100	47-137	
Carbon tetrachloride	ug/L	20	25.5	128	75-125	L3
Chlorobenzene	ug/L	20	20.5	102	75-125	
Chloroethane	ug/L	20	23.3	117	63-136	
Chloroform	ug/L	20	22.6	113	73-128	
Chloromethane	ug/L	20	21.0	105	55-130	
cis-1,2-Dichloroethene	ug/L	20	23.2	116	75-125	
cis-1,3-Dichloropropene	ug/L	20	22.1	111	74-125	
Cyclohexane	ug/L	100	103	103	67-125	N2
Dibromochloromethane	ug/L	20	22.7	113	75-125	
Dibromomethane	ug/L	20	23.8	119	75-125	
Dichlorodifluoromethane	ug/L	20	22.4	112	63-132	
Ethylbenzene	ug/L	20	22.2	111	75-125	
Iodomethane	ug/L	20	20.4	102	72-125	
Isopropylbenzene (Cumene)	ug/L	20	20.9	104	75-125	
Methyl-tert-butyl ether	ug/L	20	21.6	108	75-125	
Methylene Chloride	ug/L	20	21.5	107	70-125	
n-Hexane	ug/L	50	52.6	105	51-150	
n-Propylbenzene	ug/L	20	20.7	104	73-127	
Styrene	ug/L	20	22.0	110	75-125	
Tetrachloroethene	ug/L	20	21.1	105	74-125	
Tetrahydrofuran	ug/L	200	266	133	64-138	
Toluene	ug/L	20	21.4	107	74-125	
trans-1,2-Dichloroethene	ug/L	20	22.8	114	68-128	
trans-1,3-Dichloropropene	ug/L	20	22.0	110	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	62.0	124	60-127	
Trichloroethene	ug/L	20	23.8	119	75-127	
Trichlorofluoromethane	ug/L	20	22.3	111	72-133	
Vinyl acetate	ug/L	20	20.1	100	61-129	
Vinyl chloride	ug/L	20	21.9	110	75-128	
Xylene (Total)	ug/L	60	64.1	107	75-125	
1,2-Dichloroethane-d4 (S)	%			102	75-136	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			96	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3323290 3323291													
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10480450002 Result	Spike Conc.	Spike Conc.	Conc.								
1,1,1,2-Tetrachloroethane	ug/L	ND	40	40	40	41.6	40.7	104	102	75-140	2	30	
1,1,1-Trichloroethane	ug/L	ND	40	40	40	48.4	45.4	121	113	74-136	7	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	40	40	40	42.8	41.4	107	103	66-134	3	30	
1,1,2-Trichloroethane	ug/L	ND	40	40	40	45.1	43.5	113	109	75-126	4	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	40	40	40	44.6	42.0	111	105	65-146	6	30	
1,1-Dichloroethane	ug/L	ND	40	40	40	43.8	42.4	110	106	68-132	3	30	
1,1-Dichloroethene	ug/L	ND	40	40	40	43.2	41.1	108	103	66-139	5	30	
1,2,3-Trichloropropane	ug/L	ND	40	40	40	42.8	43.4	107	108	69-128	1	30	
1,2,4-Trimethylbenzene	ug/L	ND	40	40	40	40.0	38.4	100	96	71-133	4	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	100	100	100	110	108	110	108	54-138	2	30	
1,2-Dibromoethane (EDB)	ug/L	ND	40	40	40	47.5	44.9	119	112	68-125	6	30	
1,2-Dichlorobenzene	ug/L	ND	40	40	40	38.7	36.7	97	92	74-136	5	30	
1,2-Dichloroethane	ug/L	ND	40	40	40	42.6	41.1	106	103	68-125	4	30	
1,2-Dichloropropane	ug/L	ND	40	40	40	46.9	44.9	117	112	67-125	4	30	
1,4-Dichlorobenzene	ug/L	ND	40	40	40	38.7	37.3	97	93	74-126	4	30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	800	800	800	887	841	111	105	68-125	5	30	
2-Butanone (MEK)	ug/L	ND	200	200	200	206	203	103	102	54-144	2	30	
2-Hexanone	ug/L	ND	200	200	200	230	229	115	114	58-137	0	30	
2-Propanol	ug/L	35.8J	400	400	400	435	423	100	97	40-150	3	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	200	200	200	232	226	116	113	60-129	3	30	
Acetone	ug/L	40.6	200	200	200	239	233	99	96	62-132	3	30	
Acrylonitrile	ug/L	ND	400	400	400	434	419	108	105	68-125	3	30	
Benzene	ug/L	ND	40	40	40	42.4	40.1	106	100	68-125	5	30	
Bromochloromethane	ug/L	ND	40	40	40	44.5	44.2	111	110	66-143	1	30	
Bromodichloromethane	ug/L	ND	40	40	40	48.5	45.7	121	114	74-125	6	30	
Bromoform	ug/L	ND	40	40	40	49.5	47.1	124	118	64-134	5	30	
Bromomethane	ug/L	ND	40	40	40	52.3	51.5	131	129	30-150	2	30	
Carbon disulfide	ug/L	ND	40	40	40	40.3	38.8	101	97	43-147	4	30	
Carbon tetrachloride	ug/L	ND	40	40	40	51.0	46.9	127	117	71-143	8	30	
Chlorobenzene	ug/L	10.5	40	40	40	50.0	46.8	99	91	75-125	7	30	
Chloroethane	ug/L	ND	40	40	40	53.8	53.4	135	134	75-129	1	30	M1
Chloroform	ug/L	ND	40	40	40	44.3	41.0	111	102	66-132	8	30	
Chloromethane	ug/L	ND	40	40	40	50.1	47.4	125	118	53-137	6	30	
cis-1,2-Dichloroethene	ug/L	ND	40	40	40	44.3	43.1	111	108	67-133	3	30	
cis-1,3-Dichloropropene	ug/L	ND	40	40	40	41.3	39.7	103	99	66-125	4	30	
Cyclohexane	ug/L	ND	200	200	200	200	189	100	94	74-146	6	30	N2
Dibromochloromethane	ug/L	ND	40	40	40	43.0	41.1	108	103	62-132	5	30	
Dibromomethane	ug/L	ND	40	40	40	45.9	45.4	115	113	67-125	1	30	
Dichlorodifluoromethane	ug/L	ND	40	40	40	50.5	48.0	126	120	71-142	5	30	
Ethylbenzene	ug/L	ND	40	40	40	43.0	40.4	108	101	74-126	6	30	
Iodomethane	ug/L	ND	40	40	40	48.0	46.6	120	116	70-139	3	30	
Isopropylbenzene (Cumene)	ug/L	ND	40	40	40	40.7	38.1	102	95	74-130	7	30	
Methyl-tert-butyl ether	ug/L	ND	40	40	40	41.8	41.6	105	104	65-131	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Parameter	Units	10480450002		3323290		3323291		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
Methylene Chloride	ug/L	ND	40	40	44.0	42.1	110	105	57-125	4	30			
n-Hexane	ug/L	ND	100	100	87.7	86.6	88	87	30-150	1	30			
n-Propylbenzene	ug/L	ND	40	40	40.3	38.1	101	95	67-138	6	30			
Styrene	ug/L	ND	40	40	42.8	40.5	107	101	72-125	6	30			
Tetrachloroethene	ug/L	ND	40	40	43.0	40.0	107	100	72-129	7	30			
Tetrahydrofuran	ug/L	ND	400	400	480	463	120	116	66-128	4	30			
Toluene	ug/L	ND	40	40	42.1	40.4	105	101	73-125	4	30			
trans-1,2-Dichloroethene	ug/L	ND	40	40	44.2	42.1	111	105	62-137	5	30			
trans-1,3-Dichloropropene	ug/L	ND	40	40	41.7	40.1	104	100	61-136	4	30			
trans-1,4-Dichloro-2-butene	ug/L	ND	100	100	125	120	125	120	45-128	4	30			
Trichloroethene	ug/L	ND	40	40	46.3	43.8	116	110	74-132	6	30			
Trichlorofluoromethane	ug/L	ND	40	40	48.8	45.5	122	114	75-139	7	30			
Vinyl acetate	ug/L	ND	40	40	40.5	40.3	101	101	51-135	0	30			
Vinyl chloride	ug/L	ND	40	40	51.3	49.4	128	123	68-146	4	30			
Xylene (Total)	ug/L	ND	120	120	124	117	104	98	67-137	6	30			
1,2-Dichloroethane-d4 (S)	%						103	101	75-136					F1
4-Bromofluorobenzene (S)	%						98	98	75-125					
Toluene-d8 (S)	%						96	96	75-125					

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10479716

QC Batch: 615063 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716005, 10479716007, 10479716009, 10479716012, 10479716014

METHOD BLANK: 3323182 Matrix: Water
Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716005, 10479716007, 10479716009, 10479716012, 10479716014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.012J	0.020	0.0068	06/26/19 14:07	

METHOD BLANK: 3323184 Matrix: Water
Associated Lab Samples: 10479716001, 10479716002, 10479716003, 10479716004, 10479716005, 10479716007, 10479716009, 10479716012, 10479716014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	0.020	0.0068	06/26/19 14:10	

LABORATORY CONTROL SAMPLE: 3323183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.33	0.35	104	90-110	

LABORATORY CONTROL SAMPLE: 3323185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.33	0.32	97	90-110	

MATRIX SPIKE SAMPLE: 3325306

Parameter	Units	10479639005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	0.33	0.32	97	90-110	

MATRIX SPIKE SAMPLE: 3325307

Parameter	Units	10479639010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.011J	0.33	0.34	100	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

SAMPLE DUPLICATE: 3325308

Parameter	Units	10479639011 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	<0.0068		20	

SAMPLE DUPLICATE: 3325309

Parameter	Units	10479639013 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	<0.0068		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF
Pace Project No.: 10479716

QC Batch: 615207 Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10479716015, 10479716016, 10479716017, 10479716018, 10479716024, 10479716025, 10479716027, 10479716029

METHOD BLANK: 3323837 Matrix: Water
Associated Lab Samples: 10479716015, 10479716016, 10479716017, 10479716018, 10479716024, 10479716025, 10479716027, 10479716029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	0.020	0.0068	06/28/19 12:01	

METHOD BLANK: 3323839 Matrix: Water
Associated Lab Samples: 10479716015, 10479716016, 10479716017, 10479716018, 10479716024, 10479716025, 10479716027, 10479716029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	<0.0068	0.020	0.0068	06/28/19 12:04	

LABORATORY CONTROL SAMPLE: 3323838

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.33	0.32	95	90-110	

LABORATORY CONTROL SAMPLE: 3323840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.33	0.31	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3323841 3323842

Parameter	Units	10479712010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	2.6	3.3	3.3	5.5	5.6	87	90	90-110	2	20 E,M6

MATRIX SPIKE SAMPLE: 3328718

Parameter	Units	10479815001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.018J	0.33	0.34	96	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

SAMPLE DUPLICATE: 3328719

Parameter	Units	10479712001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	0.0090J	<0.0068		20	

SAMPLE DUPLICATE: 3328720

Parameter	Units	10479712006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	<0.0068		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-MT Pace Analytical Services - Montana

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

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

F1 The sample was analyzed at a dilution due to foaming of the sample in the purge vessel.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

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

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10479716001	LF-2	EPA 8260B	614038		
10479716002	LF-3	EPA 8260B	614038		
10479716003	MW-4	EPA 8260B	614038		
10479716004	MW-5	EPA 8260B	614038		
10479716005	MW-6	EPA 8260B	615092		
10479716006	MW-6B	EPA 8260B	615092		
10479716007	MW-7A	EPA 8260B	614038		
10479716008	MW-7B	EPA 8260B	614038		
10479716009	MW-8A	EPA 8260B	614038		
10479716010	MW-8B	EPA 8260B	615008		
10479716011	MW-8C	EPA 8260B	615008		
10479716012	MW-9A	EPA 8260B	614038		
10479716013	MW-9B	EPA 8260B	614038		
10479716014	MW-10	EPA 8260B	615008		
10479716015	MW-11	EPA 8260B	614038		
10479716016	MW-12	EPA 8260B	614038		
10479716017	MW-13	EPA 8260B	614038		
10479716018	MW-15	EPA 8260B	614038		
10479716019	MW-17	EPA 8260B	615092		
10479716020	MW-18	EPA 8260B	614038		
10479716021	MW-19	EPA 8260B	615008		
10479716022	MW-20	EPA 8260B	615092		
10479716023	MW-24	EPA 8260B	615092		
10479716024	MW-27	EPA 8260B	615092		
10479716025	McIlhattan Seep	EPA 8260B	615008		
10479716026	Valley View Vet Well	EPA 8260B	615008		
10479716027	DUP1	EPA 8260B	614038		
10479716028	DUP2	EPA 8260B	614038		
10479716029	DUP3	EPA 8260B	615092		
10479716030	TRIP BLANK 1	EPA 8260B	614038		
10479716031	TRIP BLANK 2	EPA 8260B	614038		
10479716001	LF-2	EPA 353.2	615063		
10479716002	LF-3	EPA 353.2	615063		
10479716003	MW-4	EPA 353.2	615063		
10479716004	MW-5	EPA 353.2	615063		
10479716005	MW-6	EPA 353.2	615063		
10479716007	MW-7A	EPA 353.2	615063		
10479716009	MW-8A	EPA 353.2	615063		
10479716012	MW-9A	EPA 353.2	615063		
10479716014	MW-10	EPA 353.2	615063		
10479716015	MW-11	EPA 353.2	615207		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 114-710326D.200 Bozeman LF

Pace Project No.: 10479716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10479716016	MW-12	EPA 353.2	615207		
10479716017	MW-13	EPA 353.2	615207		
10479716018	MW-15	EPA 353.2	615207		
10479716024	MW-27	EPA 353.2	615207		
10479716025	Mclhattan Seep	EPA 353.2	615207		
10479716027	DUP1	EPA 353.2	615207		
10479716029	DUP3	EPA 353.2	615207		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Tetra Tech	Report To: Mark Pearson	Attention: Deb Lloyd
Address: 831 Bridger Dr. Ste 6	Copy To:	Company Name: Tetra Tech
City: BOZEMAN, MT 59718	Purchase Order No.:	Address:
Phone: 406-559-4169	Project Name: Bozeman Landfill	Pace Quote Reference: Beverly Friday
Fax: 406-559-4169	Project Number: 114-710326 P. 200	Pace Project Manager:
Requested Due Date/TAT: Normal		Pace Profile #:

Page: **1** of **3**
2111386

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: **MT**
STATE: **MT**

ITEM #	SAMPLE ID (A-Z, 0-9 / -)	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	# OF CONTAINERS	PRESERVATIVES	Y/N	Requested Analysis Filtered (Y/N)	Pace Project No / Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB						
1	LF-2	Drinking Water	DATE: 6/12	TIME: 1150	WTG	4	Unpreserved	Analysis Test: NO₃, NO₂, NH₄	001	
2	LF-3	Water	DATE: 6/12	TIME: 1250		4			002	
3	MW-4	Waste Water	DATE: 6/10	TIME: 1430		4			003	
4	MW-5	Product	DATE: 6/10	TIME: 1120		4			004	
5	MW-6	Soil/Solid	DATE: 6/13	TIME: 1130		4			005	
6	MW-6B	Oil	DATE: 6/10	TIME: 1040		3			006	
7	MW-7A	Wipe	DATE: 6/10	TIME: 1230		4			007	
8	MW-7B	Air	DATE: 6/12	TIME: 1245		3			008	
9	MW-8A	Tissue	DATE: 6/12	TIME: 1540		4			009	
10	MW-8B	Other	DATE: 6/12	TIME: 1640		3			010	
11	MW-8C		DATE: 6/10	TIME: 1700		3			011	
12	MW-9A		DATE: 6/10	TIME: 1420		4			012	

ADDITIONAL COMMENTS
2 Coolers shipped. Mark Pearson / FE 6/17/19 1600 FedEx - Belgrade - 6/17/19 1600 FedEx
6/17/19 9:45

RELINQUISHED BY / AFFILIATION DATE TIME
Mark Pearson / FE 6/17/19 1600

ACCEPTED BY / AFFILIATION DATE TIME
Mark Pearson / FE 6/17/19 1600

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

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

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: **Mark F. Pearson**
SIGNATURE of SAMPLER: *Mark F. Pearson*
DATE Signed (MM/DD/YYYY): **6/17/19**

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

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



Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
Email To:	Purchase Order No.:	Address:
Phone:	Project Name: <i>Bozeman Landfill</i>	Pace Quote Reference:
Requested Due Date/TAT:	Project Number:	Pace Project Manager:
		Pace Profile #:

Page: *2* of *3*
2111384

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location STATE: *MT*

ITEM #	Section D Required Client Information	Matrix Codes MATRIX CODE	Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Temp in °C	Received on	Custody Sealed (Y/N)	Samples Intact (Y/N)
						COMPOSITE START	COMPOSITE END/GRAB									
1	MW-9B	WT	G	6/10 1430	3											
2	MW-10	WT	G	6/12 1050	4											
3	MW-11	WT	G	6/10 1520	4											
4	MW-12	WT	G	1550	4											
5	MW-13	WT	G	1330	4											
6	MW-15	WT	G	1140	4											
7	MW-17	WT	G	6/13 1300	3											
8	MW-18	WT	G	6/10 1700	3											
9	MW-19	WT	G	6/12 1330	3											
10	MW-20	WT	G	6/13 1450	3											
11	MW-24	WT	G	940	3											
12	MW-27	WT	G	1310	4											

ADDITIONAL COMMENTS
Mark Johnson / FE 6/17/19 1600 FedEx - Belgrade 6/17/19 1600

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: *Mark F Pearson*
 SIGNATURE of SAMPLER: *Mark F Pearson*
 DATE Signed (MM/DD/YYYY): *6/17/19*

*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

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

Section A
Required Client Information:
 Company: _____
 Address: _____
 Email To: _____
 Phone: _____
 Requested Due Date/TAT: _____

Section B
Required Project Information:
 Report To: _____
 Copy To: _____
 Purchase Order No.: _____
 Project Name: **BOZEMAN Landfill**
 Project Number: _____

Section C
Invoice Information:
 Attention: _____
 Company Name: _____
 Address: _____
 Pace Quote Reference: _____
 Pace Project Manager: _____
 Pace Profile #: _____

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____
 Site Location: _____
 STATE: **MT**

Page: **3** of **3**
 2111385

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	SAMPLE TEMP AT COLLECTION		# OF CONTAINERS	Preservatives	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME					
1	McIntoshan Seed	DW	6/12	1100	WT G	WT G	6/12	1100	4	✓	✓	625	
2	Valley View Vet abll	WT	6/12	1015	↓	↓	6/12	1015	3	✓	✓	626	
3	DUP 1	WW	6/10	1340	↓	↓	6/10	1340	4	✓	✓	627	
4	DUP 2	P	6/10	1730	↓	↓	6/10	1730	3	✓	✓	628	
5	DUP 3	SL	6/13	1130	↓	↓	6/13	1130	4	✓	✓	629	
6	TRIP BLANK 1	OL	5/22	-	↓	↓	5/22	-	3	✓	✓	630	
7	TRIP BLANK 2	WP	5/22	-	↓	↓	5/22	-	3	✓	✓	631	
8		AR											
9		OT											
10													
11													
12													

ADDITIONAL COMMENTS
 MAINTENANCE / TZ

RELINQUISHED BY / AFFILIATION
 DATE: 6/17/19 TIME: 1600

ACCEPTED BY / AFFILIATION
 DATE: 6/17/19 TIME: 1600

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Mark F Pearson**
 SIGNATURE of SAMPLER: *Mark F Pearson*
 DATE Signed (MM/DD/YYYY): 6/17/19

Temp in °C

Received on

Sealed Cooler (Y/N)

Custody (Y/N)

Samples Intact (Y/N)

F-ALL-Q-020rev.07, 15-May-2007

*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.

Sample Condition Upon Receipt

Client Name: Tetra tech

Project #: _____

WO# : 10479716

PM: BEF

Due Date: 07/01/19

CLIENT: 11 Tetra-MT

Courier: Fed Ex UPS USPS Client
 Pace Speedee Commercial, See Exception

Tracking Number: 7754 9347 0161/9926

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Biological Tissue Frozen? Yes No N/A

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer: T1(0461) T2(1336) T3(0459) T4(0254) T5(0489) Type of Ice: Wet Blue None Dry Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 0.4 0.1, 0.3 °C Average Corrected Temp (no temp blank only): 0.2 °C See Exceptions 5/18/19
 Correction Factor: -0.1 Cooler Temp Corrected w/temp blank: 0.3 0.0, 0.2 °C

USDA Regulated Soil: (N/A, water sample/Other: _____) Date/Initials of Person Examining Contents: 5/18/19

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present and Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	4.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. <input type="checkbox"/> Fecal Coliform <input type="checkbox"/> HPC <input type="checkbox"/> Total Coliform/E coli <input type="checkbox"/> BOD/cBOD <input type="checkbox"/> Hex Chrome <input type="checkbox"/> Turbidity <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Orthophos <input type="checkbox"/> Other
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Field Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10. Is sediment visible in the dissolved container? <input type="checkbox"/> Yes <input type="checkbox"/> No
Is sufficient information available to reconcile the samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. If no, write ID/ Date/Time on Container Below: <input type="checkbox"/> See Exception
Matrix: <input checked="" type="checkbox"/> Water <input type="checkbox"/> Soil <input type="checkbox"/> Oil <input type="checkbox"/> Other		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Sample # <u>1-17: 1/1</u> <input type="checkbox"/> NaOH <input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> Zinc Acetate
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , <2pH, NaOH >9 Sulfide, NaOH >12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Positive for Res. <input type="checkbox"/> Yes <input type="checkbox"/> No See Exception
Exceptions: <u>VOA</u> Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Chlorine? <input type="checkbox"/> Yes <input type="checkbox"/> No pH Paper Lot# <input type="checkbox"/>
		Res. Chlorine 0-6 Roll <u>203619</u> 0-6 Strip 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> See Exception
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Pace Trip Blank Lot # (if purchased): <u>210048</u>

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____
 Comments/Resolution: _____

Field Data Required? Yes No

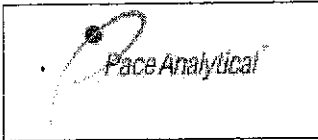
Date/Time: _____

Project Manager Review: Brenda Fargy

Date: 6/18/19

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).

Labeled by: SJ




Document Name:
Headspace Exception

Document Revised: 17Dec2018
Page 1 of 3

Document No.:
F-MN-C-276-Rev.01

Issuing Authority:
Pace Minnesota Quality Office

Sample ID	Headspace greater than 6mm	Headspace less than 6mm	No Headspace	Total Vials	Sediment Present?
LF2	0	0	3	3	4
LF3	1	1	1	" "	2
4	0	0	3	" "	2
5	3	0	0	" "	2
6	0	0	3	" "	2
6B	0	3	0	" "	2
7A	0	1	2	" "	4
7B	0	2	1	" "	2
8A	0	0	3	" "	4
8B	0	1	2	" "	2
8C	0	3	0	" "	2
9A	3	0	0	" "	2

	Document Name: Headspace Exception	Document Revised: 17Dec2018 Page 2 of 3
	Document No.: F-MN-C-276-Rev.01	Issuing Authority: Pace Minnesota Quality Office

Sample ID	Headspace greater than 6mm	Headspace less than 6mm	No Headspace	Total Vials	Sediment Present?
9B	3	0	0	3	N
10	0	1	2	" "	Y
11	3	0	0	" "	N
12	3	0	0	" "	N
13	3	0	0	" "	N
15	0	0	3	" "	N
17	0	1	2	" "	N
18	0	3	0	" "	N
19	0	3	0	" "	Y
20	1	0	2	" "	N
24	1	0	2	" "	Y
27	0	0	3	" "	Y

Sample ID	Headspace greater than 6mm	Headspace less than 6mm	No Headspace	Total Vials	Sediment Present?
Mc Ilhattan	0	2	1	3	N
Vet Well	0	3	0	" "	N
DUP 1	3	0	0	" "	Y
DUP 2	0	3	0	" "	Y
DUP 3	0	2	1	" "	N
TB 1	1	0	1	2	N
TB 2	0	1	1	2	N

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	<i>[Signature]</i>	<i>6/19/19 1534</i>	<i>[Signature]</i>		
2	<i>[Signature]</i>		<i>[Signature]</i>		
3			<i>[Signature]</i>	<i>June 19 0930</i>	
4					
Cooler Temperature on Receipt <i>3.5</i> °C					
Custody Seal <input checked="" type="radio"/> Y or <input type="radio"/> N					
Received on Ice <input checked="" type="radio"/> Y or <input type="radio"/> N					
Samples Intact <input checked="" type="radio"/> Y or <input type="radio"/> N					

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



Sample Condition
Upon Receipt

Client Name:

Project #:

Pace-MP

10479716

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other:

Tracking Number: 4638 0197 7878

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: 160285052 OS418-LS Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read: 3.8

Date and Initials of Person Examining Contents: MLP 6/20

Cooler Temp Corrected: 3.8

Biological Tissue Frozen? Yes No

USDA Regulated Soil Yes No

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA? Check maps & Circle State
Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Comments:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? Note if sediment is visible in the dissolved container. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>H2O</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ ^{17/17} <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>001-017</u>
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: <u>MLP</u> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip-Blank Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>N/A</u>	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: [Signature]

Date: 6/20/19

APPENDIX D

DATA VALIDATION REPORTS

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-23-19
Tetra Tech Project Number:	117-710326D / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	3-27-18	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10425293
Analytical Parameters:	VOCs by 8260 (low)		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-3	10425293001	Natural
MW-18	10425293002	Natural
MW-20	10425293003	Natural
LF-2	10425293004	Natural
MW-17	10425293005	Natural
MW-12	10425293006	Natural
DUP	10425293007	Duplicate of MW-18
Trip Blank	10425293008	Trip Blank

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP. However, the SAP was written for the required June and December monitoring events. After the new remediation system started in August 2016, two additional quarterly events (generally March and October) were added to provide more data. The additional events, such as the one in this March 2018 data set, have a much smaller sample set of wells that specified in the SAP.

5. DATA QUALIFIERS

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description (as per USEPA 2018 PFAS Data Review and Validation Guidelines)
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

6. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report..

Pace listed multiple QC deviations or anomalies. These include:

Continuing Calibrations

- QC Batch: 530257: Bromomethane for the six natural samples, DUP, MS, MSD and LCS was outside Pace's acceptance limits and that bromomethane results may be biased low.
- QC Batch 530362: Tetrahydrofuran for the LCS, MS, and MSD were outside Pace's acceptance limits and may be biased high.

Matrix Spikes

- QC Batch 53027: MS %R exceeded the QC limits for non-project-specific sample 10424458005 for acetone, tetrahydrofuran, and n-hexane.
- QC Batch 530262: MS %R and MSD %R exceeded the QC limits for non-project-specific sample 10425707008 for tetrahydrofuran, n-hexane.

Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. Most areas of the COC were completed and the forms signed by field and laboratory personnel. However, some sections were left blank, such as preservative columns, "Report To:" and not all samples had dates next to them but were assume to be the date from the line above.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. No discrepancies or issues were noted by the laboratory.

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs by the required method 8260.

7. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Samples were collected March 27, 2018 and analyzed by April 3, 2018, within the 14 day holding time.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed for VOCs by method 8260.

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the QAPP and units were reported as micrograms per liter ($\mu\text{g/L}$) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

None of the samples required dilution. All sample results were reported to the method detection limit.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-3	Dichlorodifluoromethane	0.35 $\mu\text{g/L}$	J
MW-18	Acetone	18.5 $\mu\text{g/L}$	J
MW-18	Chlorobenzene	0.14 $\mu\text{g/L}$	J
MW-18	Ethylbenzene	0.21 $\mu\text{g/L}$	J
MW-18	2-Hexanone	4.3 $\mu\text{g/L}$	J
MW-18	Isopropylbenzene (Cumene)	0.37 $\mu\text{g/L}$	J
MW-18	4-Methyl-2-pentanone (MIBK)	2.2 $\mu\text{g/L}$	J
MW-18	Toluene	0.49 $\mu\text{g/L}$	J
MW-18	Trichloroethene	0.25 $\mu\text{g/L}$	J
MW-18	Xylene (Total)	0.73 $\mu\text{g/L}$	J
MW-20	Dichlorodifluoromethane	0.34 $\mu\text{g/L}$	J
MW-20	Trichloroethene	0.39 $\mu\text{g/L}$	J
LF-2	cis-1,2-Dichloroethene	0.36 $\mu\text{g/L}$	J
MW-12	1,4-Dichlorobenzene	0.38 $\mu\text{g/L}$	J
MW-12	trans-1,2-Dichloroethene	0.31 $\mu\text{g/L}$	J
DUP	Acetone	19.8 $\mu\text{g/L}$	J
DUP	Ethylbenzene	0.21 $\mu\text{g/L}$	J
DUP	2-Hexanone	4.6 $\mu\text{g/L}$	J

Sample	Analytical Parameter	Result	Qualifier
DUP	Isopropylbenzene (Cumene)	0.36 µg/L	J
DUP	4-Methyl-2-pentanone (MIBK)	2.3 µg/L	J
DUP	Toluene	0.46 µg/L	J
DUP	Trichloroethene	0.31 µg/L	J
DUP	Xylene (Total)	0.72 µg/L	J
Trip Blank	2-Propanol	34.5 µg/L	J

8. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

Bromomethane in the CCV for the six natural samples, DUP, MS, MSD and LCS was outside Pace's acceptance limits and that bromomethane results may be biased low. Tetrahydrofuran in the CCV for the LCS, MS, and MSD were outside Pace's acceptance limits and may be biased high. CCV data is not included with Level II data reports. However, in talking with Rhonda Johnson at Pace (10-24-19), she said the %D was outside control limits. Based on that, detected results for would be qualified as estimated, J, and non-detects would not require qualification. All bromomethane results were non-detect; therefore, no qualification was required. Detected tetrahydrofuran results were qualified as estimated, J, with no qualification for non-detects. The below table lists the qualified samples.

Sample	Analytical Parameter	Result	Qualifier
MW-18	Tetrahydrofuran	31.2 µg/L	J
DUP	Tetrahydrofuran	29.4 µg/L	J

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Two LCSs were analyzed.

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

Yes. All LCS/LCSD %Rs and RPDs were within control limits.

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Two method blanks were analyzed.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. All method blanks were free of analyte contamination.

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

Two non-project-specific samples were used for the MS/MSDs, including: 10424458005 and 10425293008.

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Two MS/MSDs were analyzed.

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs were within control limits with the following exceptions:

- MS %R exceeded the QC limits for non-project-specific sample 10424458005 for acetone, tetrahydrofuran, and n-hexane.
- MS %R and MSD %R exceeded the QC limits for non-project-specific sample 10425707008 for tetrahydrofuran, n-hexane.

No qualifications were made on MS/MSD %Rs alone as the samples used could not be determined to be significantly similar to project samples and all LCS/LCSD results were within control limits.

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

No laboratory duplicates were analyzed and were not required. No action was required.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

9. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

One rip blank was submitted.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

All blank results were non-detect.

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Sample DUP was a field duplicate of natural sample MW-18.

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

All field duplicate RPDs were within control limits with the exception of trichloroethene (21.4%). However, both results were less than 5x the reporting limit. Therefore, no qualification is required.

10. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

11. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result (ng/L)	Data Qualifier	Reason
LF-3	Dichlorodifluoromethane	0.35 µg/L	J	Result between RL and MDL
MW-18	Acetone	18.5 µg/L	J	Result between RL and MDL
MW-18	Chlorobenzene	0.14 µg/L	J	Result between RL and MDL
MW-18	Ethylbenzene	0.21 µg/L	J	Result between RL and MDL
MW-18	2-Hexanone	4.3 µg/L	J	Result between RL and MDL
MW-18	Isopropylbenzene (Cumene)	0.37 µg/L	J	Result between RL and MDL
MW-18	4-Methyl-2-pentanone (MIBK)	2.2 µg/L	J	Result between RL and MDL
MW-18	Toluene	0.49 µg/L	J	Result between RL and MDL
MW-18	Trichloroethene	0.25 µg/L	J	Result between RL and MDL
MW-18	Xylene (Total)	0.73 µg/L	J	Result between RL and MDL
MW-18	Tetrahydrofuran	31.2 µg/L	J	CCV outside control limits.
MW-20	Dichlorodifluoromethane	0.34 µg/L	J	Result between RL and MDL
MW-20	Trichloroethene	0.39 µg/L	J	Result between RL and MDL
LF-2	cis-1,2-Dichloroethene	0.36 µg/L	J	Result between RL and MDL
MW-12	1,4-Dichlorobenzene	0.38 µg/L	J	Result between RL and MDL
MW-12	trans-1,2-Dichloroethene	0.31 µg/L	J	Result between RL and MDL
DUP	Acetone	19.8 µg/L	J	Result between RL and MDL
DUP	Ethylbenzene	0.21 µg/L	J	Result between RL and MDL
DUP	2-Hexanone	4.6 µg/L	J	Result between RL and MDL
DUP	Isopropylbenzene (Cumene)	0.36 µg/L	J	Result between RL and MDL
DUP	4-Methyl-2-pentanone (MIBK)	2.3 µg/L	J	Result between RL and MDL
DUP	Toluene	0.46 µg/L	J	Result between RL and MDL
DUP	Trichloroethene	0.31 µg/L	J	Result between RL and MDL
DUP	Xylene (Total)	0.72 µg/L	J	Result between RL and MDL
DUP	Tetrahydrofuran	29.4 µg/L	J	CCV outside control limits.
Trip Blank	2-Propanol	34.5 µg/L	J	Result between RL and MDL

12. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- The SAP was written for the required June and December monitoring events. However, After the new remediation system started in August 2016, two additional quarterly events (generally March and October) were added to provide more data. The additional events, such as the one in this March 2018 data set, have a much smaller sample set of wells that specified in the SAP.
- Incomplete COCs is a deviation from the SAP.

13. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data. The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition. All samples were analyzed within method holding time requirements. Laboratory

quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and
7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes. No other blanks were collected.
- Method Blanks. All method blanks were free of contamination or did not require qualification.

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a "J" qualifier. These laboratory-assigned "J" qualified results are considered estimated results.

- Several results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-24-19
Tetra Tech Project Number:	117-710326 / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	8-20-18 to 8-23-18	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10444881
Analytical Parameters:	VOCs by 8260 (low) and select samples for Nitrate, NO ₂ +NO ₃		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.
- X National Functional Guidelines for Inorganic Superfund Methods Data Review. OLEM 9355.0-135, EPA-540-R-2017-001. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-2	10444881001	Natural
LF-3	10444881002	Natural
MW-4	10444881003	Natural
MW-5	10444881004	Natural
MW-6	10444881005	Natural
MW-7A	10444881006	Natural
MW-8A	10444881007	Natural
MW-9A	10444881008	Natural
MW-10	10444881009	Natural
MW-11	10444881010	Natural
MW-12	10444881011	Natural
MW-13	10444881012	Natural
MW-15	10444881013	Natural
MW-17	10444881014	Natural
MW-18	10444881015	Natural
MW-19	10444881016	Natural
MW-20	10444881017	Natural
MW-24	10444881018	Natural
MW-27	10444881019	Natural
Mclihatton Seep	10444881020	Natural

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
Valley View Vet Well	10444881021	Natural
DUP 1	10444881022	MW-6
DUP 2	10444881023	MW-18
DUP 3	10444881024	MW-12
TRIP BLANK 1	10444881025	Trip blank
TRIP BLANK 2	10444881026	Trip blank

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP. DATA QUALIFIERS

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description <i>(as per USEPA 2018 PFAS Data Review and Validation Guidelines)</i>
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

5. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.. The laboratory noted that they do not hold NELAC/TNI accreditation for cyclohexane.

Pace listed multiple QC deviations or anomalies. These include:

Continuing Calibrations

- QC Batch: 559205: Bromomethane for the Trip Blank 1, Trip Blank 2 and laboratory QC samples BLANK, LCS, MS, and MSD was outside Pace’s acceptance limits and that bromomethane results may be biased low.

Method Blank

- QC Batch: 560434: Carbon disulfide was detected in BLANK
- QC Batch: 560715: Nitrogen, NO2 plus NO3 was detected in BLANK

LCS

- QC Batch: 559205: LCS %Rs exceeded the QC limits for 1,1,1,2-Tetrachloroethane, Bromoform, and trans-1,4-Dichloro-2-butene
- QC Batch: 560434: LCS %R for carbon disulfide and 2-hexanone were above the QC limit, associated results may be biased high.

MS/MSDs

QC Batch: 559205; MS/MSD sample 10444316001 (non-projec-specific sample)

- MS %R for 1,1,1,2-tetrachloroethane was outside control limit.
- MSD %R for 1,1,1,2-tetrachloroethane and bromoform were outside control limit.
- MS %R and MSD %R were above the control limit for carbon tetrachloride. Laboratory accepted the batch based on the LCS recovery results.

QC Batch: 560434: MS/MSD sample 10446122001 (non-project-specific sample)

- MS %R for n-hexane exceeded control limit

QC Batch: 560715 and 560657: MS/MSD project-specific samples

- MS and MSD %Rs were not evaluated against control limits due to sample dilution.

Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. Most areas of the COC were completed and the forms signed by field and laboratory personnel. However, some sections were left blank, such as preservative columns, “Report To:” and not all samples had dates next to them but were assume to be the date from the line above.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. Exceptions include:

- Headspace <6mm was in observed in one of the three vials each for samples LF-3, MW-5, MW-6, MW-15, MW-19, and Valley View Vet Well, and Trip Blank 2. No qualification was required.
- Trip Blank 1 had one VOA vial that had headspace >6mm in size and only one vial for analysis. All Trip Blank 1 results are considered estimated non-detect, UJ, due to headspace >6mm.

Sample	Analytical Parameter	Result	Qualifier
Trip Blank 1	All VOCs	--	UJ

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs by the required method 8260.

6. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Yes. Samples were collected August 20-23, 2018 and analyzed by September 1 and 4, 2018 for VOCs, within the 14 day holding time, and by September 5, 2018 for Nitrate, NO₂+NO₃, within the 28 day holding time.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed for VOCs by method 8260 and nitrate, NO₂+NO₃ by method 353.2.

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the QAPP and units were reported for VOCs as micrograms per liter (ug/L) and nitrates as milligrams per liter (mg/L) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

All sample results were reported to the method detection limit. However, several nitrate samples required dilutions of 2x, 5x, 10x, or 20x, depending on sample concentrations. Reporting limits were adjusted accordingly. No qualification is required.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-2	cis-1,2-Dichloroethene	0.40 µg/L	J
LF-3	Dichlorodifluoromethane	0.37 µg/L	J
MW-4	Chloromethane	0.41 µg/L	J
MW-4	1,1-Dichloroethane	0.37 µg/L	J
MW-6	Benzene	0.14 µg/L	J
MW-6	Chloroethane	0.85 µg/L	J
MW-6	Chloromethane	0.20 µg/L	J
MW-6	1,4-Dichlorobenzene	0.21 µg/L	J
MW-7A	Acetone	16.5 µg/L	J
MW-7A	Benzene	0.36 µg/L	J
MW-7A	Chloroethane	0.69 µg/L	J
MW-7A	1,1,1-Trichloroethane	0.21 µg/L	J
MW-7A	Trichlorofluoromethane	0.41 µg/L	J
MW-9A	Chloromethane	0.24 µg/L	J
MW-9A	1,1-Dichloroethane	0.39 µg/L	J
MW-10	Nitrogen, NO ₂ plus NO ₃	0.0070 mg/L	J
MW-10	Carbon disulfide	0.15 µg/L	J
MW-10	Chloromethane	0.48 µg/L	J
MW-10	cis-1,2-Dichloroethene	0.19 µg/L	J
MW-10	Trichloroethene	0.39 µg/L	J
MW-11	Chloromethane	0.68 µg/L	J
MW-11	Tetrachloroethene	0.33 µg/L	J
MW-12	Carbon disulfide	0.082 µg/L	J
MW-12	1,4-Dichlorobenzene	0.46 µg/L	J
MW-12	trans-1,2-Dichloroethene	0.25 µg/L	J
MW-12	1,2-Dichloropropane	0.37 µg/L	J
MW-12	Trichloroethene	0.21 µg/L	J
MW-13	Chloromethane	0.69 µg/L	J
MW-13	trans-1,2-Dichloroethene	0.22 µg/L	J
MW-13	1,2-Dichloropropane	0.21 µg/L	J
MW-13	Tetrachloroethene	0.31 µg/L	J
MW-15	Chloromethane	0.61 µg/L	J
MW-17	Carbon disulfide	0.084 µg/L	J
MW-17	1,2-Dichloropropane	1.0 µg/L	J
MW-18	Benzene	0.41 µg/L	J

Sample	Analytical Parameter	Result	Qualifier
MW-18	Carbon disulfide	0.13 µg/L	J
MW-18	Tetrahydrofuran	7.9 µg/L	J
MW-18	Toluene	0.23 µg/L	J
MW-19	Toluene	0.27 µg/L	J
MW-20	Chloromethane	0.33 µg/L	J
MW-20	Trichloroethene	0.34 µg/L	J
MW-24	Chloromethane	0.95 µg/L	J
MW-27	Chloromethane	0.74 µg/L	J
Mclihatton Seep	Chloromethane	0.52 µg/L	J
Mclihatton Seep	cis-1,2-Dichloroethene	0.36 µg/L	J
Mclihatton Seep	Trichloroethene	0.25 µg/L	J
Valley View Vet Well	Chloromethane	1.2 µg/L	J
DUP 1	Benzene	0.14 µg/L	J
DUP 1	Carbon disulfide	0.11 µg/L	J
DUP 1	Chloroethane	0.90 µg/L	J
DUP 1	1,4-Dichlorobenzene	0.26 µg/L	J
DUP 1	trans-1,2-Dichloroethene	0.12 µg/L	J
DUP 2	Benzene	0.46 µg/L	J
DUP 2	Carbon disulfide	0.13 µg/L	J
DUP 2	Tetrahydrofuran	8.2 µg/L	J
DUP 2	Toluene	0.20 µg/L	J
DUP 2	Trichloroethene	0.19 µg/L	J
DUP 3	1,4-Dichlorobenzene	0.44 µg/L	J
DUP 3	trans-1,2-Dichloroethene	0.24 µg/L	J
DUP 3	1,2-Dichloropropane	0.35 µg/L	J
DUP 3	Trichloroethene	0.23 µg/L	J
TRIP BLANK 1	2-Propanol	44.6 µg/L	J
TRIP BLANK 2	2-Propanol	59.5 µg/L	J

7. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

Bromomethane in the CCV for Trip Blank 1, Trip Blank 2 and laboratory QC samples BLANK, LCS, MS, and MSD was outside Pace's acceptance limits and that bromomethane results may be biased low. CCV data is not included with Level II data reports. However, in talking with Rhonda Johnson at Pace, she said the %D was outside control limits. Based on that, detected results for would be qualified as estimated, J, and non-detects would not require qualification. All bromomethane results were non-detect; therefore, no qualification was required.

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Four LCSs were analyzed.

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

Yes. All LCS/LCSD %Rs and RPDs were within control limits except

- QC Batch: 559205: LCS %Rs exceeded the QC limits for 1,1,1,2-Tetrachloroethane, Bromoform, and trans-1,4-Dichloro-2-butene
- QC Batch: 560434: LCS %R for carbon disulfide and 2-hexanone were above the QC limit.

Detected results are considered estimated and potentially biased high. Non-detect results do not require qualification. Qualified results are listed below.

Sample	Analytical Parameter	Result	Qualifier
DUP 1	Carbon disulfide	0.11 µg/L	J+

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Four method blanks were analyzed.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. All method blanks were free of analyte contamination except the following:

- QC Batch: 560434: Carbon disulfide was detected in BLANK
- QC Batch: 560715: Nitrogen, NO₂ plus NO₃ was detected in BLANK.

Results greater than the blank amount and the reporting limit were not qualified. The carbon disulfide blank result was (0.082 µg/L, below the reporting limit. The carbon disulfide result for DUP 1 was detected at 0.11 µg/L, above the blank result but less than the reporting limit. Therefore, the result was modified to report at the reporting limit of 1.0 µg/L and qualified as non-detect, U.

One nitrogen result for MW-10 was detected below the reporting limit at a concentration equal to the blank amount (0.0070 mg/L). The nitrogen result for MW-10 was modified to report at the reporting limit (0.010 mg/L) and qualified as non-detect, U. All other nitrogen results were greater than the reporting limit and blank amount and were not qualified.

Sample	Analytical Parameter	Result	Qualifier
DUP 1	Carbon disulfide	1.0 µg/L	U
MW-10	Nitrogen, NO ₂ +NO ₃	0.010 mg/L	UJ

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

Four MS/MSDs were analyzed.

- Non-project-specific samples:
VOCs: 10444316001, 10444766002, 10446122001, 10444517002;
Nitrogen, NO₂+NO₃: 10444823002
- Project-specific sample: Nitrogen, NO₂+NO₃: 10444881001

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Four MS/MSDs were analyzed for VOCs and two for nitrogen, NO₂+NO₃.

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs were within control limits with the following exceptions:

QC Batch: 559205; MS/MSD sample 10444316001 (non-projec-specific sample)

- MS %R for 1,1,1,2-tetrachloroethane above the control limit.
- MSD %R for 1,1,1,2-tetrachloroethane and bromoform was above the control limit.
- MS %R and MSD %R were above the control limit for carbon tetrachloride. Laboratory accepted the batch based on the LCS recovery results.

- All associated 1,1,1,2-tetrachloroethane, bromoform, and carbon tetrachloride results for the batch were non-detect. No qualifications were made.

QC Batch: 560434: MS/MSD sample 10446122001 (non-project-specific sample)

- MS %R for n-hexane exceeded control limit
- All associated n-hexane results for the batch were non-detect. No qualifications were made.

QC Batch: 560715 and 560657: MS/MSD project-specific samples

- MS and MSD %Rs were not evaluated against control limits for nitrogen due to sample dilution. %Rs were not evaluated against control limits due to sample dilution.
- No qualifications were required for nitrogen, NO₂+NO₃

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

Two laboratory duplicates were analyzed for nitrogen, NO₂+NO₃. All RPDs were within control limits.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

8. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

Two trip blank were analyzed.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

All blank results were non-detect except the following:

- Trip Blank 1 – 2-propanol (44.6 µg/L)
- Trip Blank 2 – 2-propanol (59.5 µg/L)

All 2-propanol results were non-detect. No qualification was required.

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Three field duplicates were analyzed

Duplicate	Natural Sample
DUP 1	MW-6
DUP 2	MW-18
DUP 3	MW-12

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

RPDs greater than 20% for results <5x the reporting limit were not qualified. All field duplicate RPDs were within control limits or did not require qualification.

9. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

10. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result	Data Qualifier	Reason
Trip Blank 1	All VOCs	--	UJ	VOA headspace >6mm.
LF-2	cis-1,2-Dichloroethene	0.40 µg/L	J	Result between RL and MDL.
LF-3	Dichlorodifluoromethane	0.37 µg/L	J	Result between RL and MDL.
MW-4	Chloromethane	0.41 µg/L	J	Result between RL and MDL.
MW-4	1,1-Dichloroethane	0.37 µg/L	J	Result between RL and MDL.
MW-6	Benzene	0.14 µg/L	J	Result between RL and MDL.
MW-6	Chloroethane	0.85 µg/L	J	Result between RL and MDL.
MW-6	Chloromethane	0.20 µg/L	J	Result between RL and MDL.
MW-6	1,4-Dichlorobenzene	0.21 µg/L	J	Result between RL and MDL.
MW-7A	Acetone	16.5 µg/L	J	Result between RL and MDL.
MW-7A	Benzene	0.36 µg/L	J	Result between RL and MDL.
MW-7A	Chloroethane	0.69 µg/L	J	Result between RL and MDL.
MW-7A	1,1,1-Trichloroethane	0.21 µg/L	J	Result between RL and MDL.
MW-7A	Trichlorofluoromethane	0.41 µg/L	J	Result between RL and MDL.
MW-9A	Chloromethane	0.24 µg/L	J	Result between RL and MDL.
MW-9A	1,1-Dichloroethane	0.39 µg/L	J	Result between RL and MDL.
MW-10	Nitrogen, NO2 plus NO3	0.010 mg/L (0.0070 mg/L)	UJ	Result between RL and MDL. Result modified to reporting limit (0.010 mg/L) and qualified U due to method blank contamination
MW-10	Carbon disulfide	0.15 µg/L	J	Result between RL and MDL.
MW-10	Chloromethane	0.48 µg/L	J	Result between RL and MDL.
MW-10	cis-1,2-Dichloroethene	0.19 µg/L	J	Result between RL and MDL.
MW-10	Trichloroethene	0.39 µg/L	J	Result between RL and MDL.
MW-11	Chloromethane	0.68 µg/L	J	Result between RL and MDL.
MW-11	Tetrachloroethene	0.33 µg/L	J	Result between RL and MDL.
MW-12	Carbon disulfide	0.082 µg/L	J	Result between RL and MDL.
MW-12	1,4-Dichlorobenzene	0.46 µg/L	J	Result between RL and MDL.
MW-12	trans-1,2-Dichloroethene	0.25 µg/L	J	Result between RL and MDL.
MW-12	1,2-Dichloropropane	0.37 µg/L	J	Result between RL and MDL.
MW-12	Trichloroethene	0.21 µg/L	J	Result between RL and MDL.
MW-13	Chloromethane	0.69 µg/L	J	Result between RL and MDL.
MW-13	trans-1,2-Dichloroethene	0.22 µg/L	J	Result between RL and MDL.
MW-13	1,2-Dichloropropane	0.21 µg/L	J	Result between RL and MDL.
MW-13	Tetrachloroethene	0.31 µg/L	J	Result between RL and MDL.
MW-15	Chloromethane	0.61 µg/L	J	Result between RL and MDL.
MW-17	Carbon disulfide	0.084 µg/L	J	Result between RL and MDL.
MW-17	1,2-Dichloropropane	1.0 µg/L	J	Result between RL and MDL.
MW-18	Benzene	0.41 µg/L	J	Result between RL and MDL.
MW-18	Carbon disulfide	0.13 µg/L	J	Result between RL and MDL.
MW-18	Tetrahydrofuran	7.9 µg/L	J	Result between RL and MDL.
MW-18	Toluene	0.23 µg/L	J	Result between RL and MDL.
MW-19	Toluene	0.27 µg/L	J	Result between RL and MDL.
MW-20	Chloromethane	0.33 µg/L	J	Result between RL and MDL.
MW-20	Trichloroethene	0.34 µg/L	J	Result between RL and MDL.
MW-24	Chloromethane	0.95 µg/L	J	Result between RL and MDL.

Sample ID	Analyte	Result	Data Qualifier	Reason
MW-27	Chloromethane	0.74 µg/L	J	Result between RL and MDL.
Mclihatton Seep	Chloromethane	0.52 µg/L	J	Result between RL and MDL.
Mclihatton Seep	cis-1,2-Dichloroethene	0.36 µg/L	J	Result between RL and MDL.
Mclihatton Seep	Trichloroethene	0.25 µg/L	J	Result between RL and MDL.
Valley View Vet Well	Chloromethane	1.2 µg/L	J	Result between RL and MDL.
DUP 1	Benzene	0.14 µg/L	J	Result between RL and MDL.
DUP 1	Carbon disulfide	1.0 µg/L (0.11 µg/L)	UJ+	Result between RL and MDL. LCS %R above control limit. Result modified to reporting limit (1.0 µg/L) and qualified U due to method blank contamination.
DUP 1	Chloroethane	0.90 µg/L	J	Result between RL and MDL.
DUP 1	1,4-Dichlorobenzene	0.26 µg/L	J	Result between RL and MDL.
DUP 1	trans-1,2-Dichloroethene	0.12 µg/L	J	Result between RL and MDL.
DUP 2	Benzene	0.46 µg/L	J	Result between RL and MDL.
DUP 2	Carbon disulfide	0.13 µg/L	J	Result between RL and MDL.
DUP 2	Tetrahydrofuran	8.2 µg/L	J	Result between RL and MDL.
DUP 2	Toluene	0.20 µg/L	J	Result between RL and MDL.
DUP 2	Trichloroethene	0.19 µg/L	J	Result between RL and MDL.
DUP 3	1,4-Dichlorobenzene	0.44 µg/L	J	Result between RL and MDL.
DUP 3	trans-1,2-Dichloroethene	0.24 µg/L	J	Result between RL and MDL.
DUP 3	1,2-Dichloropropane	0.35 µg/L	J	Result between RL and MDL.
DUP 3	Trichloroethene	0.23 µg/L	J	Result between RL and MDL.
TRIP BLANK 1	2-Propanol	44.6 µg/L	J	Result between RL and MDL.
TRIP BLANK 2	2-Propanol	59.5 µg/L	J	Result between RL and MDL.

11. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- Incomplete COCs is a deviation from the SAP.

12. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data. The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition.

- Exceptions include Trip Blank 1 that were received by the laboratory with headspace >6mm in size for all three VOA vials. All VOC results for Trip Blank 1 were considered as estimated non-detect, UJ, due to VOA headspace >6mm in size.

All samples were analyzed within method holding time requirements. Laboratory quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and

7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification. Exceptions include one nitrogen, NO₂+NO₃ result and one carbon disulfide result that each required reporting as estimated and potentially biased high, J+, due to LCS %Rs above the control limit.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes. No other blanks were collected.
- Method Blanks. All method blanks were free of contamination or did not require qualification. Exceptions include one method blank qualification for nitrogen, NO₂+NO₃ and one method blank qualification for carbon disulfide. The nitrogen and carbon disulfide results were adjusted to the laboratory reporting limit and qualified as non-detect, U, due to blank contamination.

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected

below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a “J” qualifier. These laboratory-assigned “J” qualified results are considered estimated results.

- Several results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-24-19
Tetra Tech Project Number:	117-710326D / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	10-16-18	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10452593
Analytical Parameters:	VOCs by 8260 (low)		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-2	10452593001	Natural
LF-3	10452593002	Natural
MW-12	10452593003	Natural
MW-17	10452593004	Natural
MW-18	10452593005	Natural
MW-20	10452593006	Natural
DUP	10452593007	Duplicate of MW-12
Trip blank	10452593008	Trip Blank

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP. However, the SAP was written for the required June and December monitoring events. After the new remediation system started in August 2016, two additional quarterly events (generally March and October) were added to provide more data. The additional events, such as the one in this October 2018 data set, have a much smaller sample set of wells that specified in the SAP.

5. DATA QUALIFIERS

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description <i>(as per USEPA 2018 PFAS Data Review and Validation Guidelines)</i>
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

6. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.. Pace indicated that they do not have NELAC/TNI accreditation for cyclohexane. No qualifications are required.

No QC deviations or anomalies were identified by Pace for the data set. Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. Most areas of the COC were completed and the forms signed by field and laboratory personnel. However, some sections were left blank, such as preservative columns, “Report To:” and not all samples had dates next to them but were assume to be the date from the line above.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. No discrepancies or issues were noted by the laboratory with the exception that headspace was observed in multiple VOA vials. Each sample included three VOAs. Headspace observations are as follows:

- VOAs with headspace <6mm size: LF-3 (1), MW-12 (1), MW-17 (1), MW-18 (2);
- VOAs with headspace >6mm size: LF-2 (1).

Rhonda Johnson at Pace (10-25-19) stated that the analysts will use the VOAs without headspace first and VOAs with headspace <6mm in size if needed. If VOAs are required to be used where headspace is >6mm, the laboratory will include a note for the affected samples. The laboratory did not indicate any of the >6mm headspace VOAs were used for the required analyses. Therefore, no qualification is required.

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs by the required method 8260.

7. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Samples were collected October 16, 2018 and analyzed by October 30, 2018, within the 14 day holding time.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed for VOCs by method 8260.

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the QAPP and units were reported as micrograms per liter (µg/L) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

None of the samples required dilution. All sample results were reported to the method detection limit.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-2	Carbon disulfide	0.086 µg/L	J
LF-2	Chloromethane	0.52 µg/L	J
LF-2	cis-1,2-Dichloroethene	0.42 µg/L	J
LF-3	Chloromethane	0.71 µg/L	J
LF-3	Dichlorodifluoromethane	0.38 µg/L	J
MW-12	1,4-Dichlorobenzene	0.44 µg/L	J
MW-12	1,2-Dichloropropane	0.30 µg/L	J
MW-12	Isopropylbenzene (Cumene)	0.49 µg/L	J
MW-17	Acetone	10.6 µg/L	J
MW-17	2-Butanone (MEK)	2.7 µg/L	J
MW-17	1,2-Dichloropropane	1.2 µg/L	J
MW-17	4-Methyl-2-pentanone (MIBK)	0.55 µg/L	J
MW-17	Vinyl chloride	0.13 µg/L	J
MW-18	Chlorobenzene	0.31 µg/L	J
MW-18	Chloromethane	0.47 µg/L	J
MW-18	Isopropylbenzene (Cumene)	0.51 µg/L	J
MW-18	4-Methyl-2-pentanone (MIBK)	0.43 µg/L	J
MW-18	Toluene	0.28 µg/L	J
MW-18	Trichloroethene	0.29 µg/L	J
MW-18	1,2,4-Trimethylbenzene	0.57 µg/L	J
MW-20	Chloromethane	0.24 µg/L	J
MW-20	Dichlorodifluoromethane	0.29 µg/L	J
MW-20	cis-1,2-Dichloroethene	0.16 µg/L	J
DUP	1,4-Dichlorobenzene	0.43 µg/L	J
Trip Blank	Bromodichloromethane	0.31 µg/L	J
Trip Blank	2-Propanol	64.3 µg/L	J
Trip Blank	Toluene	0.12 µg/L	J

8. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

The laboratory did not report CCV results as those are included in Level II and IV data reports. However, the laboratory indicated all results were within control limits unless other wise notes. The laboratory did not identify any out-of-control CCV results.

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. One LCS was analyzed.

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

Yes. All LCS/LCSD %Rs and RPDs were within control limits.

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. One method blank were analyzed.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. The method blank was free of analyte contamination.

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

One non-project-specific sample was used for the MS/MSDs, including: 10453496001.

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Two MS/MSDs were analyzed.

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs and RPDs were within control limits.

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

No laboratory duplicates were analyzed and were not required. No action was required.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

9. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

One trip blank was submitted.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

The trip blank had the following detections:

Analytical Parameter	Result	Qualifier
Bromodichloromethane	0.31 µg/L	J
Chloroform	1.0 µg/L	
2-Propanol	64.3 µg/L	J
Toluene	0.12 µg/L	J

All sample results for the detected constituents were non-detect with the exception of the MW-18 result for Toluene (0.28 µg/L). Both the blank result and sample results were less than the laboratory reporting limit. Based on NFG guidelines, the MW-18 sample result was adjusted to the reporting limit of 0.50 µg/L and qualified as non-detect.

Sample	Analytical Parameter	Result	Qualifier
MW-18	Toluene	Original value: 0.28 µg/L; Adjusted Value: 0.50 µg/L	J

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Sample DUP was a field duplicate of natural sample MW-12.

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

All field duplicate RPDs were within control limits. RPDs greater than 20% for sample results <5x the reporting limit did not require qualification.

10. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

11. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result (ng/L)	Data Qualifier	Reason
LF-2	Carbon disulfide	0.086 µg/L	J	Result between RL and MDL
LF-2	Chloromethane	0.52 µg/L	J	Result between RL and MDL
LF-2	cis-1,2-Dichloroethene	0.42 µg/L	J	Result between RL and MDL
LF-3	Chloromethane	0.71 µg/L	J	Result between RL and MDL
LF-3	Dichlorodifluoromethane	0.38 µg/L	J	Result between RL and MDL
MW-12	1,4-Dichlorobenzene	0.44 µg/L	J	Result between RL and MDL
MW-12	1,2-Dichloropropane	0.30 µg/L	J	Result between RL and MDL
MW-12	Isopropylbenzene (Cumene)	0.49 µg/L	J	Result between RL and MDL
MW-17	Acetone	10.6 µg/L	J	Result between RL and MDL
MW-17	2-Butanone (MEK)	2.7 µg/L	J	Result between RL and MDL
MW-17	1,2-Dichloropropane	1.2 µg/L	J	Result between RL and MDL
MW-17	4-Methyl-2-pentanone (MIBK)	0.55 µg/L	J	Result between RL and MDL
MW-17	Vinyl chloride	0.13 µg/L	J	Result between RL and MDL
MW-18	Chlorobenzene	0.31 µg/L	J	Result between RL and MDL
MW-18	Chloromethane	0.47 µg/L	J	Result between RL and MDL
MW-18	Isopropylbenzene (Cumene)	0.51 µg/L	J	Result between RL and MDL
MW-18	4-Methyl-2-pentanone (MIBK)	0.43 µg/L	J	Result between RL and MDL
MW-18	Toluene	0.50 µg/L (0.28 µg/L)	UJ	Result between RL and MDL. Qualified as non-detect at RL (0.50 µg/L) due to trip blank contamination.
MW-18	Trichloroethene	0.29 µg/L	J	Result between RL and MDL
MW-18	1,2,4-Trimethylbenzene	0.57 µg/L	J	Result between RL and MDL
MW-20	Chloromethane	0.24 µg/L	J	Result between RL and MDL
MW-20	Dichlorodifluoromethane	0.29 µg/L	J	Result between RL and MDL
MW-20	cis-1,2-Dichloroethene	0.16 µg/L	J	Result between RL and MDL
DUP	1,4-Dichlorobenzene	0.43 µg/L	J	Result between RL and MDL
Trip Blank	Bromodichloromethane	0.31 µg/L	J	Result between RL and MDL
Trip Blank	2-Propanol	64.3 µg/L	J	Result between RL and MDL
Trip Blank	Toluene	0.12 µg/L	J	Result between RL and MDL

12. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- The SAP was written for the required June and December monitoring events. However, After the new remediation system started in August 2016, two additional quarterly events (generally March and October) were added to provide more data. The additional events, such as the one in this October 2018 data set, have a much smaller sample set of wells that specified in the SAP.
- Incomplete COCs is a deviation from the SAP.

13. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data. The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition. All samples were analyzed within method holding time requirements. Laboratory quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and
7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes with the exception of four constituents. All sample results were non-detect for those constituents with the exception of one sample (MW-18) that had detections of Toluene. The MW-18 result required reporting at the RL due to blank contamination.
- Method Blanks. All method blanks were free of contamination or did not require qualification.

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a "J" qualifier. These laboratory-assigned "J" qualified results are considered estimated results.

- None of the results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-25-19
Tetra Tech Project Number:	117-710326 / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	11-27-18 – 11-29-18	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10457409
Analytical Parameters:	VOCs by 8260 (low) and select samples for Nitrate, NO ₂ +NO ₃ , metals by 6060, and anions by 300.0		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.
- X National Functional Guidelines for Inorganic Superfund Methods Data Review. OLEM 9355.0-135, EPA-540-R-2017-001. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-2	10457409001	Natural
LF-3	10457409002	Natural
MW-4	10457409003	Natural
MW-5	10457409004	Natural
MW-6	10457409005	Natural
MW-7A	10457409006	Natural
MW-8A	10457409007	Natural
MW-9A	10457409008	Natural
MW-10	10457409009	Natural
MW-11	10457409010	Natural
MW-12	10457409011	Natural
MW-13	10457409012	Natural
MW-15	10457409013	Natural
MW-17	10457409014	Natural
MW-18	10457409015	Natural
MW-19	10457409016	Natural
MW-20	10457409017	Natural
MW-21	10457409018	Natural
MW-22	10457409019	Natural

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
MW-23	10457409020	Natural
MW-24	10457409021	Natural
MW-27	10457409022	Natural
Mclihatton Seep	10457409023	Natural
Valley View Vet Well	10457409024	Natural
DUP 1	10457409025	MW-20
DUP 2	10457409026	MW-12
DUP 3	10457409027	MW-13
TRIP BLANK 1	10457409028	Trip blank
TRIP BLANK 2	10457409029	Trip blank

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP.

5. Data Qualifiers

Data qualifiers used for this project are those in the NFG and are listed below.

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description <i>(as per USEPA 2018 PFAS Data Review and Validation Guidelines)</i>
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

6. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report. The laboratory noted that they do not hold NELAC/TNI accreditation for cyclohexane. All cyclohexane results were non-detect. No qualification was made regarding cyclohexane.

Pace listed multiple QC deviations or anomalies. These include:

Continuing Calibrations

- QC Batch 579447: Bromomethane results were below control limit, associated results may be biased low for project samples DUP 1, LF-2, LF-3, MW-10, MW-11, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-27, MW-4, MW-6, MW-7A, MW-8A, McIlhhattan Seep, and Valley View Vet Well.

Method Blank

Metals

- QC Batch 579208: Barium and chromium detected in method blank.
- QC Batch 579208: manganese detected in method blank but all results were 10x the blank amount or were non-detect.
- QC Batch: 590844: Thallium detected in method blank

VOCs

- QC Batch 579536: 2-Propanol

MS/MSDs

QC Batch 589983; MS/MSD sample 10457175011 (non-projec-specific sample)

- MS %R for Ethylbenzene was above control limit. Batch accepted based on LCS recovery.
- MSD %R for Ethylbenzene was above control limit. Batch accepted based on LCS recovery.

QC Batch 578874: MS/MSD sample 10457409002 and 10457409003 (project-specific samples)

- MS & MSD %Rs for chloride and sulfate exceeded control limit. Batch accepted based on LCS recovery.

QC Batch 580704: MS/MSD 10457409009, 10457409010 (project-specific samples)

- MS and MSD %Rs for nitrogen, NO₂+NO₃ were above control limits. Batch accepted based on LCS recovery. The laboratory also noted the analyte concentration exceeded the calibration range, reported results are estimated for lab IDs 3148996 MS and 3148997 MSD.

Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. Most areas of the COC were completed and the forms signed by field and laboratory personnel. However, some sections were left blank, such as preservative columns, "Report To:" and not all samples had dates next to them but were assumed to be the date from the line above. Field personnel also attached Table 2 from the SAP that specified the required analyses for each of the samples submitted. The table was checked against the analyses listed for each of the samples in this report and all parameters were analyzed as specified.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. Headspace was noted on the Headspace Exception form. All VOCs included three VOAs. Only one VOA for LF-3 had a >6mm headspace. All other VOAs had either no headspace or <6mm headspace observed. The laboratory had sufficient volume to analyze the samples without using the LF-3 sample with >6mm headspace. No qualifications were made.

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs, metals, anions, and nitrogen, NO₂+NO₃ by the required methods (8260B, 6020, 300.0, and 353.2).

7. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Yes. Samples were collected November 27 – 29, 2018 and analyzed by September 1 and 4, 2018 for VOCs, within the 14 day holding time for VOCs, 6 month holding time for metals, 28 day holding time for Nitrate, NO₂+NO₃ and anions.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed as required as per the SAP

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the SAP and units were reported for VOCs and metals as micrograms per liter (ug/L) and nitrates, and anions as miligrams per liter (mg/L) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

All sample results were reported to the method detection limit. Several nitrate samples required dilutions of 5x and 10x, chloride 5x, and manganese 20x, depending on sample concentrations. Reporting limits were adjusted accordingly. No qualification is required.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-2	cis-1,2-Dichloroethene	0.42 µg/L	J
LF-3	Arsenic, Dissolved	0.46 µg/L	J
LF-3	Copper, Dissolved	0.48 µg/L	J
LF-3	Lead, Dissolved	0.075 µg/L	J
LF-3	Manganese, Dissolved	0.28 µg/L	J
LF-3	Thallium, Dissolved	0.079 µg/L	J
LF-3	Dichlorodifluoromethane	0.34 µg/L	J
MW-4	Copper, Dissolved	0.77 µg/L	J
MW-4	Nickel, Dissolved	0.41 µg/L	J
MW-4	Selenium, Dissolved	0.30 µg/L	J
MW-4	Thallium, Dissolved	0.051 µg/L	J
MW-4	Dichlorodifluoromethane	0.26 µg/L	J
MW-4	1,1-Dichloroethane	0.31 µg/L	J
MW-5	Copper, Dissolved	0.35 µg/L	J
MW-5	Selenium, Dissolved	0.26 µg/L	J
MW-5	Silver, Dissolved	0.23 µg/L	J
MW-6	Cadmium, Dissolved	0.031 µg/L	J
MW-6	Iron, Dissolved	23.0 µg/L	J
MW-6	Silver, Dissolved	0.19 µg/L	J
MW-6	Benzene	0.21 µg/L	J
MW-6	1,4-Dichlorobenzene	0.20 µg/L	J
MW-6	Tetrachloroethene	0.48 µg/L	J
MW-6	Trichloroethene	0.37 µg/L	J
MW-7A	Benzene	0.18 µg/L	J
MW-7A	1,1,1-Trichloroethane	0.17 µg/L	J
MW-7A	Trichlorofluoromethane	0.33 µg/L	J
MW-8A	Cobalt, Dissolved	0.090 µg/L	J
MW-8A	Iron, Dissolved	7.8 µg/L	J

Sample	Analytical Parameter	Result	Qualifier
MW-8A	Lead, Dissolved	0.064 µg/L	J
MW-8A	Thallium, Dissolved	0.035 µg/L	J
MW-8A	Zinc, Dissolved	2.7 µg/L	J
MW-8A	Trichloroethene	0.21 µg/L	J
MW-9A	Copper, Dissolved	0.52 µg/L	J
MW-9A	Thallium, Dissolved	0.050 µg/L	J
MW-9A	1,1-Dichloroethane	0.38 µg/L	J
MW-10	cis-1,2-Dichloroethene	0.23 µg/L	J
MW-10	Trichloroethene	0.32 µg/L	J
MW-11	Tetrachloroethene	0.20 µg/L	J
MW-12	Nitrogen, NO2 plus NO3	0.020 mg/L	J
MW-12	Cadmium, Dissolved	0.073 µg/L	J
MW-12	Copper, Dissolved	0.68 µg/L	J
MW-12	Lead, Dissolved	0.062 µg/L	J
MW-12	Silver, Dissolved	0.17 µg/L	J
MW-12	Zinc, Dissolved	2.7 µg/L	J
MW-12	trans-1,2-Dichloroethene	0.12 µg/L	J
MW-12	1,2-Dichloropropane	0.33 µg/L	J
MW-12	Trichloroethene	0.29 µg/L	J
MW-13	Nitrogen, NO2 plus NO3	0.028 mg/L	J
MW-13	Chromium, Dissolved	0.16 µg/L	J
MW-13	Iron, Dissolved	39.0 µg/L	J
MW-13	Silver, Dissolved	0.20 µg/L	J
MW-13	Zinc, Dissolved	2.4 µg/L	J
MW-13	Trichloroethene	0.31 µg/L	J
MW-15	Arsenic, Dissolved	0.40 µg/L	J
MW-15	Lead, Dissolved	0.051 µg/L	J
MW-15	Selenium, Dissolved	0.30 µg/L	J
MW-15	Silver, Dissolved	0.21 µg/L	J
MW-17	Copper, Dissolved	0.46 µg/L	J
MW-17	Thallium, Dissolved	0.035 µg/L	J
MW-17	1,2-Dichloroethane	0.26 µg/L	J
MW-17	1,2-Dichloropropane	1.3 µg/L	J
MW-18	Chromium, Dissolved	0.38 µg/L	J
MW-18	Copper, Dissolved	0.69 µg/L	J
MW-18	Selenium, Dissolved	0.33 µg/L	J
MW-18	Silver, Dissolved	0.18 µg/L	J
MW-18	Vanadium, Dissolved	0.95 µg/L	J
MW-18	Chlorobenzene	0.22 µg/L	J
MW-18	1,2-Dichloroethane	0.34 µg/L	J
MW-18	4-Methyl-2-pentanone (MIBK)	0.71 µg/L	J
MW-18	Toluene	0.38 µg/L	J
MW-18	Trichloroethene	0.32 µg/L	J
MW-18	1,2,4-Trimethylbenzene	0.23 µg/L	J
MW-19	Toluene	0.27 µg/L	J
MW-20	Arsenic, Dissolved	0.37 µg/L	J
MW-20	Cadmium, Dissolved	0.040 µg/L	J
MW-20	Manganese, Dissolved	0.27 µg/L	J
MW-20	Nickel, Dissolved	0.39 µg/L	J
MW-20	Thallium, Dissolved	0.032 µg/L	J
MW-20	Zinc, Dissolved	4.0 µg/L	J
MW-20	Dichlorodifluoromethane	0.27 µg/L	J
MW-20	cis-1,2-Dichloroethene	0.25 µg/L	J
MW-20	Trichloroethene	0.32 µg/L	J
MW-21	Toluene	0.13 µg/L	J
MW-22	Toluene	0.11 µg/L	J
MW-23	Benzene	0.22 µg/L	J
MW-23	Toluene	0.42 µg/L	J
MW-27	Cadmium, Dissolved	0.037 µg/L	J
MW-27	Copper, Dissolved	0.49 µg/L	J

Sample	Analytical Parameter	Result	Qualifier
McIlhattan Seep	Cadmium, Dissolved	0.031 µg/L	J
McIlhattan Seep	Manganese, Dissolved	0.26 µg/L	J
McIlhattan Seep	cis-1,2-Dichloroethene	0.32 µg/L	J
McIlhattan Seep	Trichloroethene	0.25 µg/L	J
Valley View Vet Well	Barium, Dissolved	0.12 µg/L	J
Valley View Vet Well	Lead, Dissolved	0.084 µg/L	J
Valley View Vet Well	Silver, Dissolved	0.22 µg/L	J
DUP 1	Arsenic, Dissolved	0.37 µg/L	J
DUP 1	Cadmium, Dissolved	0.043 µg/L	J
DUP 1	Manganese, Dissolved	0.26 µg/L	J
DUP 1	Nickel, Dissolved	0.31 µg/L	J
DUP 1	Zinc, Dissolved	3.6 µg/L	J
DUP 1	Dichlorodifluoromethane	0.32 µg/L	J
DUP 1	cis-1,2-Dichloroethene	0.24 µg/L	J
DUP 1	Trichloroethene	0.31 µg/L	J
DUP 2	Nitrogen, NO2 plus NO3	0.020 mg/L	J
DUP 2	Cadmium, Dissolved	0.061 µg/L	J
DUP 2	Copper, Dissolved	0.78 µg/L	J
DUP 2	Lead, Dissolved	0.063 µg/L	J
DUP 2	Silver, Dissolved	0.19 µg/L	J
DUP 2	Zinc, Dissolved	2.4 µg/L	J
DUP 2	trans-1,2-Dichloroethene	0.15 µg/L	J
DUP 2	1,2-Dichloropropane	0.28 µg/L	J
DUP 2	Trichloroethene	0.28 µg/L	J
DUP 3	Nitrogen, NO2 plus NO3	0.023 mg/L	J
DUP 3	Chromium, Dissolved	0.23 µg/L	J
DUP 3	Iron, Dissolved	36.1 µg/L	J
DUP 3	Lead, Dissolved	0.048 µg/L	J
DUP 3	Silver, Dissolved	0.20 µg/L	J
DUP 3	Zinc, Dissolved	2.2 µg/L	J
DUP 3	trans-1,2-Dichloroethene	0.12 µg/L	J
DUP 3	1,2-Dichloropropane	0.30 µg/L	J
DUP 3	Trichloroethene	0.31 µg/L	J
Trip Blank 1	2-Propanol	49.9 µg/L	J
Trip Blank 2	2-Propanol	63.1 µg/L	J

8. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

QC Batch 579447: Bromomethane results were below control limit, associated results may be biased low for project samples DUP 1, LF-2, LF-3, MW-10, MW-11, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-27, MW-4, MW-6, MW-7A, MW-8A, McIlhattan Seep, and Valley View Vet Well, and select Pace's associated QC. CCV data is not included with Level II data reports. However, in talking with Rhonda Johnson at Pace, she said the %D was outside control limits. Based on that, detected results for would be qualified as estimated, J, and non-detects would not require qualification. All bromomethane results were non-detect; therefore, no qualification was required.

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Four LCSs were analyzed for samples.

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

Yes. All LCS/LCSD %Rs and RPDs were within control limits.

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Four method blanks were analyzed for VOCs, two for metals, one for nitrates, and one for anions.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. All method blanks were free of analyte contamination except the following:

Metals

- QC Batch 579208: Barium (0.19 µg/L) and chromium (0.35 µg/L) were detected in method blank. Associated barium and chromium results were reported at the RL and qualified as non-detect, U. Exceptions include the chromium values for MW-5, MW-6, MW-15, and Valley View Vet, which were qualified as estimated and potentially biased high, J+, due to method blank contamination.
- QC Batch 579208: Manganese detected in method blank but all results were 10x the blank amount or were non-detect. No qualifications were made.
- QC Batch: 590844: Barium (0.25 µg/L) and thallium (0.060 µg/L) was detected in method blank. Associated barium and thallium results were reported at the RL and qualified as non-detect, U. Exceptions include the thallium values for greater than the blank result, which were qualified as estimated and potentially biased high, J+, due to method blank contamination.
- The laboratory assigned a qualifier B to several lead results indicating method blank contamination. However, the laboratory report showed both method blank results for lead as <0.039 µg/L. Tetra Tech contacted Rhonda Johnson at Pace to inquire about the qualifications. In an e-mail dated, 10-29-19, Rhonda Johnson provided the following explanation: "Did some digging and found out that the result for lead for the blank in question was 0.039 ug/L which is right at the MDL. This does not often occur but when it does, this is the approach the LIMS takes to the evaluation for qualifying with B flags when the results are equal at the lower detection limit." She also said that it is a system limitation in that the method blank result for lead was reported as <0.039 the system µg/L, when apparently lead was detected at the MDL of 0.039 µg/L.

VOCs

- QC Batch 579536: 2-Propanol (18.6 µg/L) was detected in the method blank. Associated 2-Propanol results were reported at the RL and qualified as non-detect, U.

Qualified results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-3	Thallium	Adjusted: 0.10 µg/L Original: 0.075 µg/L	U
	Lead	Adjusted: 0.10 µg/L Original: 0.075 µg/L	U
MW-4	Thallium	Adjusted: 0.10 µg/L Original: 0.051 µg/L	U
MW-5	Chromium	2.8 µg/L	J+
MW-6	Chromium	0.62 µg/L	J+
MW-8A	Thallium	Adjusted: 0.10 µg/L	U

Sample	Analytical Parameter	Result	Qualifier
	Lead	Original: 0.035 µg/L Adjusted: 0.10 µg/L Original: 0.064 µg/L	U
MW-9A	Thallium	Adjusted: 0.10 µg/L Original: 0.050 µg/L	U
MW-13	Chromium	Adjusted: 0.50 µg/L Original: 0.16 µg/L	U
MW-15	Chromium	2.3 µg/L	J+
MW-17	Thallium	Adjusted: 0.10 µg/L Original: 0.035 µg/L	U
MW-18	Chromium	Adjusted: 0.10 µg/L Original: 0.38 µg/L	U
MW-20	Thallium	Adjusted: 0.10 µg/L Original: 0.032 µg/L	U
MW-27	Lead	0.10 µg/L	U
Valley View Vet	Barium	Adjusted: 0.30 µg/L Original: 0.12 µg/L	U
	Chromium	1.0 µg/L	J+
DUP 3	Chromium	Adjusted: 0.50 µg/L Original: 0.23 µg/L	U
Trip Blank 1	2-Propanol	Adjusted: 100 µg/L Original: 49.9 µg/L	U
Trip Blank 2	2-Propanol	Adjusted: 100 µg/L Original: 63.1 µg/L	U

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

Non-project-specific samples included: 10457175011

Project-specific samples included: 10457409002, 10457409003, 10457409009, and 10457409010

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Five MS/MSDs were analyzed. One or more MS/MSDs was analyzed per analytical method, based on the number of samples analyzed..

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs were within control limits with the following exceptions:

QC Batch 589983:; MS/MSD sample 10457175011 (non-projec-specific sample)

- MS %R for Ethylbenzene was above control limit. Batch accepted based on LCS recovery.
- MSD %R for Ethylbenzene was above control limit. Batch accepted based on LCS recovery.

QC Batch 578874: MS/MSD sample 10457409002 and 10457409003 (project-specific samples)

- MS & MSD %Rs for chloride and sulfate exceeded control limit. Batch accepted based on LCS recovery.

QC Batch 580704: MS/MSD 10457409009,10457409010 (project-specific samples)

- MS and MSD %Rs for nitrogen, NO₂+NO₃ were above control limits. Batch accepted based on LCS recovery. The laboratory also noted the analyte concentration exceeded the calibtaion range, reported results are estimated for lab IDs 3148996 MS and 3148997 MSD.

No qualifications were made based on MS/MSD data alone, as all associated LCS/LCSD recoveries and RPDs were within control limits.

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

No laboratory duplicates were analyzed. No qualification is required.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

9. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

Two trip blank were analyzed.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

All blank results were non-detect except the following:

- Trip Blank 1 – 2-propanol (49.9 µg/L)
- Trip Blank 2 – 2-propanol (63.1 µg/L)

All associated 2-propanol results were non-detect. No qualification was required.

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Three field duplicates were analyzed:

Duplicate	Natural Sample
DUP 1	MW-20
DUP 2	MW-12
DUP 3	MW-13

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

RPDs greater than 20% for results <5x the reporting limit were not qualified. All field duplicate RPDs were within control limits or did not require qualification.

10. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

11. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result	Data Qualifier	Reason
LF-2	cis-1,2-Dichloroethene	0.42 µg/L	J	Result between RL and MDL

Sample ID	Analyte	Result	Data Qualifier	Reason
LF-3	Arsenic, Dissolved	0.46 µg/L	J	Result between RL and MDL
LF-3	Copper, Dissolved	0.48 µg/L	J	Result between RL and MDL
LF-3	Lead, Dissolved	0.075 µg/L	J	Result between RL and MDL
LF-3	Manganese, Dissolved	0.28 µg/L	J	Result between RL and MDL
LF-3	Thallium, Dissolved	0.10 µg/L (0.079 µg/L)	UJ	Result between RL and MDL. Result qualified U at RL due to method blank contamination.
	Lead, Dissolved	0.10 (0.079 µg/L)	UJ	Result between RL and MDL. Result qualified U at RL due to method blank contamination.
LF-3	Dichlorodifluoromethane	0.34 µg/L	J	Result between RL and MDL
MW-4	Copper, Dissolved	0.77 µg/L	J	Result between RL and MDL
MW-4	Nickel, Dissolved	0.41 µg/L	J	Result between RL and MDL
MW-4	Selenium, Dissolved	0.30 µg/L	J	Result between RL and MDL
MW-4	Thallium, Dissolved	0.10 µg/L (0.051 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.10 µg/L RL due to method blank contamination.
MW-4	Dichlorodifluoromethane	0.26 µg/L	J	Result between RL and MDL
MW-4	1,1-Dichloroethane	0.31 µg/L	J	Result between RL and MDL
MW-5	Chromium	2.8 µg/L	J+	Estimated and potentially biased high due to method blank contamination.
MW-5	Copper, Dissolved	0.35 µg/L	J	Result between RL and MDL
MW-5	Selenium, Dissolved	0.26 µg/L	J	Result between RL and MDL
MW-5	Silver, Dissolved	0.23 µg/L	J	Result between RL and MDL
MW-6	Cadmium, Dissolved	0.031 µg/L	J	Result between RL and MDL
MW-6	Chromium	0.62 µg/L	J+	Estimated and potentially biased high due to method blank contamination.
MW-6	Iron, Dissolved	23.0 µg/L	J	Result between RL and MDL
MW-6	Silver, Dissolved	0.19 µg/L	J	Result between RL and MDL
MW-6	Benzene	0.21 µg/L	J	Result between RL and MDL
MW-6	1,4-Dichlorobenzene	0.20 µg/L	J	Result between RL and MDL
MW-6	Tetrachloroethene	0.48 µg/L	J	Result between RL and MDL
MW-6	Trichloroethene	0.37 µg/L	J	Result between RL and MDL
MW-7A	Benzene	0.18 µg/L	J	Result between RL and MDL
MW-7A	1,1,1-Trichloroethane	0.17 µg/L	J	Result between RL and MDL
MW-7A	Trichlorofluoromethane	0.33 µg/L	J	Result between RL and MDL
MW-8A	Cobalt, Dissolved	0.090 µg/L	J	Result between RL and MDL
MW-8A	Iron, Dissolved	7.8 µg/L	J	Result between RL and MDL
MW-8A	Lead, Dissolved	0.064 µg/L	J	Result between RL and MDL
MW-8A	Thallium, Dissolved	0.10 µg/L (0.035 µg/L)	UJ	Result between RL and MDL. Result qualified U at the RL due to method blank contamination.
	Lead, Dissolved	0.10 µg/L (0.064 µg/L)	UJ	Result between RL and MDL. Result qualified U at the RL due to method blank contamination.
MW-8A	Zinc, Dissolved	2.7 µg/L	J	Result between RL and MDL
MW-8A	Trichloroethene	0.21 µg/L	J	Result between RL and MDL
MW-9A	Copper, Dissolved	0.52 µg/L	J	Result between RL and MDL
MW-9A	Thallium, Dissolved	0.10 µg/L (0.050 µg/L)	J	Result between RL and MDL. Result qualified U at 0.10 µg/L RL due to method blank contamination.
MW-9A	1,1-Dichloroethane	0.38 µg/L	J	Result between RL and MDL
MW-10	cis-1,2-Dichloroethene	0.23 µg/L	J	Result between RL and MDL
MW-10	Trichloroethene	0.32 µg/L	J	Result between RL and MDL
MW-11	Tetrachloroethene	0.20 µg/L	J	Result between RL and MDL

Sample ID	Analyte	Result	Data Qualifier	Reason
MW-12	Nitrogen, NO2 plus NO3	0.020 mg/L	J	Result between RL and MDL
MW-12	Cadmium, Dissolved	0.073 µg/L	J	Result between RL and MDL
MW-12	Copper, Dissolved	0.68 µg/L	J	Result between RL and MDL
MW-12	Lead, Dissolved	0.062 µg/L	J	Result between RL and MDL
MW-12	Silver, Dissolved	0.17 µg/L	J	Result between RL and MDL
MW-12	Zinc, Dissolved	2.7 µg/L	J	Result between RL and MDL
MW-12	trans-1,2-Dichloroethene	0.12 µg/L	J	Result between RL and MDL
MW-12	1,2-Dichloropropane	0.33 µg/L	J	Result between RL and MDL
MW-12	Trichloroethene	0.29 µg/L	J	Result between RL and MDL
MW-13	Nitrogen, NO2 plus NO3	0.028 mg/L	J	Result between RL and MDL
MW-13	Chromium, Dissolved	0.50 µg/L (0.16 µg/L)	J	Result between RL and MDL. Result qualified U at 0.50 µg/L RL due to method blank contamination.
MW-13	Iron, Dissolved	39.0 µg/L	J	Result between RL and MDL
MW-13	Silver, Dissolved	0.20 µg/L	J	Result between RL and MDL
MW-13	Zinc, Dissolved	2.4 µg/L	J	Result between RL and MDL
MW-13	Trichloroethene	0.31 µg/L	J	Result between RL and MDL
MW-15	Arsenic, Dissolved	0.40 µg/L	J	Result between RL and MDL
MW-15	Chromium	2.3 µg/L	J+	Estimated and potentially biased high due to method blank contamination.
MW-15	Lead, Dissolved	0.051 µg/L	J	Result between RL and MDL
MW-15	Selenium, Dissolved	0.30 µg/L	J	Result between RL and MDL
MW-15	Silver, Dissolved	0.21 µg/L	J	Result between RL and MDL
MW-17	Copper, Dissolved	0.46 µg/L	J	Result between RL and MDL
MW-17	Thallium, Dissolved	0.10 µg/L (0.035 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.10 µg/L RL due to method blank contamination.
MW-17	1,2-Dichloroethane	0.26 µg/L	J	Result between RL and MDL
MW-17	1,2-Dichloropropane	1.3 µg/L	J	Result between RL and MDL
MW-18	Chromium, Dissolved	0.05 µg/L (0.38 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.50 µg/L RL due to method blank contamination.
MW-18	Copper, Dissolved	0.69 µg/L	J	Result between RL and MDL
MW-18	Selenium, Dissolved	0.33 µg/L	J	Result between RL and MDL
MW-18	Silver, Dissolved	0.18 µg/L	J	Result between RL and MDL
MW-18	Vanadium, Dissolved	0.95 µg/L	J	Result between RL and MDL
MW-18	Chlorobenzene	0.22 µg/L	J	Result between RL and MDL
MW-18	1,2-Dichloroethane	0.34 µg/L	J	Result between RL and MDL
MW-18	4-Methyl-2-pentanone (MIBK)	0.71 µg/L	J	Result between RL and MDL
MW-18	Toluene	0.38 µg/L	J	Result between RL and MDL
MW-18	Trichloroethene	0.32 µg/L	J	Result between RL and MDL
MW-18	1,2,4-Trimethylbenzene	0.23 µg/L	J	Result between RL and MDL
MW-19	Toluene	0.27 µg/L	J	Result between RL and MDL
MW-20	Arsenic, Dissolved	0.37 µg/L	J	Result between RL and MDL
MW-20	Cadmium, Dissolved	0.040 µg/L	J	Result between RL and MDL
MW-20	Manganese, Dissolved	0.27 µg/L	J	Result between RL and MDL
MW-20	Nickel, Dissolved	0.39 µg/L	J	Result between RL and MDL
MW-20	Thallium, Dissolved	0.10 µg/L (0.032 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.10 µg/L RL due to method blank contamination.
MW-20	Zinc, Dissolved	4.0 µg/L	J	Result between RL and MDL
MW-20	Dichlorodifluoromethane	0.27 µg/L	J	Result between RL and MDL
MW-20	cis-1,2-Dichloroethene	0.25 µg/L	J	Result between RL and MDL
MW-20	Trichloroethene	0.32 µg/L	J	Result between RL and MDL
MW-21	Toluene	0.13 µg/L	J	Result between RL and MDL

Sample ID	Analyte	Result	Data Qualifier	Reason
MW-22	Toluene	0.11 µg/L	J	Result between RL and MDL
MW-23	Benzene	0.22 µg/L	J	Result between RL and MDL
MW-23	Toluene	0.42 µg/L	J	Result between RL and MDL
MW-27	Cadmium, Dissolved	0.037 µg/L	J	Result between RL and MDL
MW-27	Copper, Dissolved Lead, Dissolved	0.49 µg/L 0.010 µg/L	J U	Result between RL and MDL Result qualified U at the RL due to method blank contamination.
Mcllhattan Seep	Cadmium, Dissolved	0.031 µg/L	J	Result between RL and MDL
Mcllhattan Seep	Manganese, Dissolved	0.26 µg/L	J	Result between RL and MDL
Mcllhattan Seep	cis-1,2-Dichloroethene	0.32 µg/L	J	Result between RL and MDL
Mcllhattan Seep	Trichloroethene	0.25 µg/L	J	Result between RL and MDL
Valley View Vet Well	Barium, Dissolved	0.30 µg/L (0.12 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.10 µg/L RL due to method blank contamination.
Valley View Vet	Chromium, Dissolved	1.0 µg/L	J+	Estimated and potentially biased high due to method blank contamination.
Valley View Vet Well	Lead, Dissolved	0.084 µg/L	J	Result between RL and MDL
Valley View Vet Well	Silver, Dissolved	0.22 µg/L	J	Result between RL and MDL
DUP 1	Arsenic, Dissolved	0.37 µg/L	J	Result between RL and MDL
DUP 1	Cadmium, Dissolved	0.043 µg/L	J	Result between RL and MDL
DUP 1	Manganese, Dissolved	0.26 µg/L	J	Result between RL and MDL
DUP 1	Nickel, Dissolved	0.31 µg/L	J	Result between RL and MDL
DUP 1	Zinc, Dissolved	3.6 µg/L	J	Result between RL and MDL
DUP 1	Dichlorodifluoromethane	0.32 µg/L	J	Result between RL and MDL
DUP 1	cis-1,2-Dichloroethene	0.24 µg/L	J	Result between RL and MDL
DUP 1	Trichloroethene	0.31 µg/L	J	Result between RL and MDL
DUP 2	Nitrogen, NO2 plus NO3	0.020 mg/L	J	Result between RL and MDL
DUP 2	Cadmium, Dissolved	0.061 µg/L	J	Result between RL and MDL
DUP 2	Copper, Dissolved	0.78 µg/L	J	Result between RL and MDL
DUP 2	Lead, Dissolved	0.063 µg/L	J	Result between RL and MDL
DUP 2	Silver, Dissolved	0.19 µg/L	J	Result between RL and MDL
DUP 2	Zinc, Dissolved	2.4 µg/L	J	Result between RL and MDL
DUP 2	trans-1,2-Dichloroethene	0.15 µg/L	J	Result between RL and MDL
DUP 2	1,2-Dichloropropane	0.28 µg/L	J	Result between RL and MDL
DUP 2	Trichloroethene	0.28 µg/L	J	Result between RL and MDL
DUP 3	Nitrogen, NO2 plus NO3	0.023 mg/L	J	Result between RL and MDL
DUP 3	Chromium, Dissolved	0.50 µg/L (0.23 µg/L)	UJ	Result between RL and MDL. Result qualified U at 0.50 µg/L RL due to method blank contamination.
DUP 3	Iron, Dissolved	36.1 µg/L	J	Result between RL and MDL
DUP 3	Lead, Dissolved	0.048 µg/L	J	Result between RL and MDL
DUP 3	Silver, Dissolved	0.20 µg/L	J	Result between RL and MDL
DUP 3	Zinc, Dissolved	2.2 µg/L	J	Result between RL and MDL
DUP 3	trans-1,2-Dichloroethene	0.12 µg/L	J	Result between RL and MDL
DUP 3	1,2-Dichloropropane	0.30 µg/L	J	Result between RL and MDL
DUP 3	Trichloroethene	0.31 µg/L	J	Result between RL and MDL
Trip Blank 1	2-Propanol	100 µg/L (49.9 µg/L)	J	Result between RL and MDL. Result qualified U at 100 µg/L RL due to method blank contamination.
Trip Blank 2	2-Propanol	100 µg/L (63.1 µg/L)	J	Result between RL and MDL. Result qualified U at 100 µg/L RL

Sample ID	Analyte	Result	Data Qualifier	Reason
				due to method blank contamination.

12. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- Incomplete COCs is a deviation from the SAP.

13. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data. The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition. All samples were analyzed within method holding time requirements. Laboratory quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and
7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and

MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes. No other blanks were collected.
- Method Blanks. All method blanks were free of contamination or did not require qualification. Exceptions include blank detections for barium, chromium, thallium, and 2-propanol. Associated results were: 1) qualified as estimated and potentially biased high, J+, for constituents detected above the blank amount and above the RL, or 2) adjusted to the reporting limit value and qualified as non-detect, U, for results less than the reporting limit..

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a "J" qualifier. These laboratory-assigned "J" qualified results are considered estimated results.

- Several results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-28-19
Tetra Tech Project Number:	117-710326D / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	3-27-19	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10469405
Analytical Parameters:	VOCs by 8260 (low)		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-2	10469405001	Natural
LF-3	10469405002	Natural
MW-12	10469405003	Natural
MW-17	10469405004	Natural
MW-18	10469405005	Natural
MW-20	10469405006	Natural
#179175TripBlank	10469405007	Trip blank
DUP 1	10469405008	Duplicate of MW-12

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP.

5. DATA QUALIFIERS

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description (as per USEPA 2018 PFAS Data Review and Validation Guidelines)
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

6. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.. The laboratory also stated they do not have NELAC/TNI accreditation for Cyclohexane.

Pace listed multiple QC deviations or anomalies. These include:

Continuing Calibrations

- QC Batch: 597597: Carbon disulfide and n-Hexane results for the LCS, MS, and MSD may be biased high due to continuing calibration results outside control limits.

LCS

- QC Batch 597597: LCS %R exceeded the QC limits for Carbon disulfide, n-hexane, and n-Propylbenzene.

Matrix Spikes

- QC Batch 597597:
 - MS %R exceeded the QC limits for Carbon disulfide and n-hexane.
 - MSD %R exceeded the QC limits for Carbon disulfide.
 - MS %R exceeded the QC limits for 1,1-Dichloroethene, Methylene chloride, and trans-1,2-Dichloroethene. However, the batch was accepted based on LCS recoveries within control limits.

Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. Most areas of the COC were completed and the forms signed by field and laboratory personnel. However, some sections were left blank, such as preservative columns, "Report To:" and not all samples had dates next to them but were assume to be the date from the line above.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. The laboratory noted that an additional sample, DUP-1 consisting of 3 VOAs was received on March 27, 2019. This sample was not listed on the COC.

The laboratory's Headspace Exception sheet indicated headspace in multiple VOAs. All samples had either no headspace or <6mm headspace with the exception of all three VOAs for MW-18 and two Trip Blank VOAs. Rhonda Johnson at Pace said that the VOAs without headspace or <6mm headspace are used first. Results for MW-18 and Trip Blank are considered as estimated non-detect, UJ, as the laboratory noted that the analyses required the use of VOAs with headspace >6mm in size.

Sample	Analytical Parameter	Result	Qualifier
MW-18	All VOC results	--	UJ
Trip Blank	All VOC results	--	UJ

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs by the required method 8260.

7. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Samples were collected March 27, 2019 and analyzed by April 9, 2018, within the 14 day holding time.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed for VOCs by method 8260.

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the QAPP and units were reported as micrograms per liter (µg/L) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

None of the samples required dilution. All sample results were reported to the method detection limit.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-2	Tetrachloroethene	0.42J	J
LF-3	Acrylonitrile	8.6J	J
LF-3	Chloroethane	0.89J	J
LF-3	Isopropylbenzene (Cumene)	0.28J	J
MW-12	1,4-Dichlorobenzene	0.38J	J
MW-12	Trichloroethene	0.32J	J
MW-17	1,2-Dichloropropane	1.3J	J
MW-18	1,2,4-Trimethylbenzene	0.53J	J
MW-18	1,2-Dichloropropane	0.19J	J

Sample	Analytical Parameter	Result	Qualifier
MW-18	Chlorobenzene	0.47 µg/L	J
MW-18	Toluene	0.39 µg/L	J
MW-18	Trichloroethene	0.27 µg/L	J
MW-18	Xylene (Total)	0.57 µg/L	J
MW-20	Dichlorodifluoromethane	0.25 µg/L	J
MW-20	Trichloroethene	0.22 µg/L	J
MW-20	cis-1,2-Dichloroethene	0.18 µg/L	J
#179175TripBlank	2-Propanol	91.1 µg/L	J
DUP 1	1,4-Dichlorobenzene	0.43 µg/L	J
DUP 1	Trichloroethene	0.33 µg/L	J

8. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

QC Batch: 597597: Carbon disulfide and n-Hexane results for the LCS, MS, and MSD may be biased high due to continuing calibration results outside control limits.

CCV data is not included with Level II data reports. However, in talking with Rhonda Johnson at Pace, she said the %D was outside control limits. Based on that, detected results would be qualified as estimated, J, and non-detects would not require qualification. All Carbon disulfide and n-Hexane results were non-detect; therefore, no qualification was required. Detected tetrahydrofuran results were qualified as estimated, J, with no qualification for non-detects. The below table lists the qualified samples.

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Two LCSs were analyzed.

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

Yes. All LCS/LCSD %Rs and RPDs were within control limits. With the following exceptions:
LCS

- QC Batch 597597: LCS %R exceeded the QC limits for Carbon disulfide, n-hexane, and n-Propylbenzene. All associated LCS results were non-detect. No qualifications were required.

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Two method blanks were analyzed.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. All method blanks were free of analyte contamination.

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

Two non-project-specific samples were used for the MS/MSDs, including: 10469162005 and 10469890001.

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Two MS/MSDs were analyzed.

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs were within control limits with the following exceptions:

Matrix Spikes

- QC Batch 597597:
 - MS %R exceeded the QC limits for Carbon disulfide and n-hexane.
 - MSD %R exceeded the QC limits for Carbon disulfide.
 - MS %R exceeded the QC limits for 1,1-Dichloroethene, Methylene chloride, and trans-1,2-Dichloroethene. However, the batch was accepted based on LCS recoveries within control limits.

All associated results were non-detect. No qualifications were made.

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

No laboratory duplicates were analyzed and were not required. No action was required.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

9. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

One trip blank was submitted.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

All blank results were non-detect except 2-Propanol. Associated 2-Propanol results were non-detect. No qualification was required.

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Sample DUP-1 was a field duplicate of natural sample MW-12.

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

All field duplicate RPDs were within the 20% control limit. Therefore, no qualification is required.

10. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

11. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result (ng/L)	Data Qualifier	Reason
MW-18	All VOC results	All Non-detect results All detect results	UJ J	VOAs used with headspace >6mm VOAs used with headspace >6mm
Trip Blank	All VOC results	All Non-detect results All detect results	UJ J	VOAs used with headspace >6mm VOAs used with headspace >6mm
LF-2	Tetrachloroethene	0.42J	J	Result between RL and MDL.
LF-3	Acrylonitrile	8.6J	J	Result between RL and MDL.
LF-3	Chloroethane	0.89J	J	Result between RL and MDL.
LF-3	Isopropylbenzene (Cumene)	0.28J	J	Result between RL and MDL.
MW-12	1,4-Dichlorobenzene	0.38J	J	Result between RL and MDL.
MW-12	Trichloroethene	0.32J	J	Result between RL and MDL.
MW-17	1,2-Dichloropropane	1.3J	J	Result between RL and MDL.
MW-18	1,2,4-Trimethylbenzene	0.53J	J	Result between RL and MDL.
MW-18	1,2-Dichloropropane	0.19J	J	Result between RL and MDL.
MW-18	Chlorobenzene	0.47J	J	Result between RL and MDL.
MW-18	Toluene	0.39J	J	Result between RL and MDL.
MW-18	Trichloroethene	0.27J	J	Result between RL and MDL.
MW-18	Xylene (Total)	0.57J	J	Result between RL and MDL.
MW-20	Dichlorodifluoromethane	0.25J	J	Result between RL and MDL.
MW-20	Trichloroethene	0.22J	J	Result between RL and MDL.
MW-20	cis-1,2-Dichloroethene	0.18J	J	Result between RL and MDL.
#179175TripBlank	2-Propanol	91.1J	J	Result between RL and MDL.
DUP 1	1,4-Dichlorobenzene	0.43J	J	Result between RL and MDL.
DUP 1	Trichloroethene	0.33J	J	Result between RL and MDL.

12. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- Incomplete COCs is a deviation from the SAP.

13. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data.

The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition. All samples were analyzed within method holding time requirements. Laboratory quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and
7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes. No other blanks were collected.
- Method Blanks. All method blanks were free of contamination or did not require qualification.

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a "J" qualifier. These laboratory-assigned "J" qualified results are considered estimated results.

- Several results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

- The laboratory noted that headspace for two samples, MW-18 and #179175 Trip Blank had VOAs with headspace >6mm. In order to perform the analyses, the laboratory was required to use one or more of the VOAs with >6mm headspace. Therefore, all non-detect VOCs for these two samples were qualified as estimated non-detect, non-detect, UJ, and all detect VOC results were qualified as estimated, J, due to headspace.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

DATA REVIEW, VERIFICATION, & VALIDATION REPORT

1. INTRODUCTION

General Project Information			
Project Name:	Bozeman Landfill	Date Validated:	10-29-19
Tetra Tech Project Number:	117-710326 / 117-710326E	Data Validated By:	N Morrow
Sample Start and End Dates:	6-10-19 – 6-13-19	Laboratory Name:	Pace Analytical
Sample Matrix:	Aqueous	Laboratory Project ID#:	10479716
Analytical Parameters:	VOCs by 8260 (low) and select samples for Nitrate, NO ₂ +NO ₃		
Name & Date of Approved SAP, QAPP, Work Plan, Etc.	Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.		

2. LABORATORY METHODS AND SAMPLE HANDLING

Validation Criteria Used:

- X Groundwater Monitoring Sampling and Analysis Plan for the Bozeman Landfill. Prepared for City of Bozeman. Prepared by Tetra Tech. Dated November 12, 2015.
- X National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9355.0-136, EPA-540-R-2017-002. Dated January 2017.
- X National Functional Guidelines for Inorganic Superfund Methods Data Review. OLEM 9355.0-135, EPA-540-R-2017-001. Dated January 2017.

3. LIST OF SAMPLES VALIDATED IN THIS REPORT

List all samples in the sample delivery group that were validated in this report.

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
LF-2	10479716001	Natural
LF-3	10479716002	Natural
MW-4	10479716003	Natural
MW-5	10479716004	Natural
MW-6	10479716005	Natural
MW-6B	10479716006	
MW-7A	10479716007	Natural
MW-7B	10479716008	
MW-8A	10479716009	Natural
MW-8B	10479716010	
MW-8C	10479716011	
MW-9A	10479716012	Natural
MW-9B	10479716013	
MW-10	10479716014	Natural
MW-11	10479716015	Natural
MW-12	10479716016	Natural
MW-13	10479716017	Natural
MW-15	10479716018	Natural
MW-17	10479716019	Natural
MW-18	10479716020	Natural

Validated Samples		
Field Sample ID#	Laboratory Sample ID#	Sample Type (Natural, Duplicate, Field Blank, Etc.)
MW-19	10479716021	Natural
MW-20	10479716022	Natural
MW-24	10479716023	Natural
MW-27	10479716024	Natural
Mclihatton Seep	10479716025	Natural
Valley View Vet Well	10479716026	Natural
DUP 1	10479716027	MW-20
DUP 2	10479716028	MW-12
DUP 3	10479716029	MW-13
TRIP BLANK 1	10479716030	Trip blank
TRIP BLANK 2	10479716031	Trip blank

4. FIELD COMPLIANCE WITH PROJECT REQUIREMENTS

Were all the required samples collected as specified in the SAP/QAPP, and field and analytical methods? Discuss.

Yes, all samples were collected as per the SAP.

5. Data Qualifiers

Data qualifiers used for this project are those in the NFG and are listed below.

Data Evaluation Qualifiers	
Data Qualifier	Qualifier Description <i>(as per USEPA 2018 PFAS Data Review and Validation Guidelines)</i>
U	The analyte was analyzed for but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
J	The analyte was positively identified, and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
J+	The result is an estimated quantity that may be biased high due to associated laboratory QA/QC result being outside control limits.
J-	The result is an estimated quantity that may be biased low due to associated laboratory QA/QC result being outside control limits.
NJ	The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

Laboratory-specific data qualifiers are provided in each individual laboratory analytical report. Laboratory qualifiers are for information purposes and do not necessarily signify that the data requires qualification.

6. LABORATORY NARRATIVE, CHAIN-OF-CUSTODY, AND SAMPLE RECEIPT CHECKLIST

Was a laboratory narrative provided and were there any non-conformance issues with the analytical data? Identify and discuss.

The laboratory provided a general narrative that stated the results reported in the report conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report. The laboratory noted that they do not hold NELAC/TNI accreditation for cyclohexane. All cyclohexane results were non-detect. No qualification was made regarding cyclohexane.

Pace listed multiple QC deviations or anomalies. These include:

Continuing Calibrations

- QC Batch 614038: Results for 2-Hexanone and Acetone were outside the acceptance limits; results may be biased high for the LCS, MS, and MSD.
- QC Batch 615008: Results for Acetone were outside the acceptance limits; results may be biased high for the LCS, MS, MSD.

LCS

- QC Batch 614038:
 - 2-Hexanone %R was above the QC limit, associated results may be biased high. Associated results were non-detect).
 - Acetone %R exceeded the QC limit but associated sample results were non-detect.
- QC Batch 615008: Acetone %R exceeded QC limit but associated samples were non-detect.
- Batch 615092: Carbon tetrachloride %R exceeded QC limit but associated samples were non-detect.

MS/MSDs

- QC Batch 614038:
 - MS %R exceeded QC limit for 1,1-Dichloroethene, Carbon disulfide, Cyclohexane, Iodomethane, and trans-1,2-Dichloroethene. Batch accepted based on LCS recovery.
 - MSD %R exceeded QC limit for 1,1-Dichloroethene, Carbon disulfide, Cyclohexane, Iodomethane. Batch accepted based on LCS recovery.
- QC Batch 615092:
 - MS and MSD %Rs exceeded QC limit for Chloroethane. Batch accepted based on LCS recovery.
- QC Batch 615092: MS and MSD sample 3323290 dilution required due to foaming of the sample in purge vessel.
- QC Batch 615207:
 - MS and MSD %Rs not evaluated against control limits due to sample dilution.
 - MS and MSD analyte concentration exceeded calibration range.

Method Blank

- QC Batch 615063: Nitrogen, NO₂+NO₃ detected in method blank

Sections 7 and 8 discuss any required qualifications.

Were sample Chain-of-Custody (CoC) forms complete? Describe.

Yes. All required areas of the CoC were completed and the forms signed by field and laboratory personnel except that: 1) field personnel only completed Sections A, B, and C on the page 1 of 3 instead of all 3 pages; and 2) the section for sample preservation was not completed by field personnel. The section should have specified that the VOC samples were preserved with HCl, nitrate samples by H₂SO₄. The table was checked against the analyses listed for each of the samples in this report and all parameters were analyzed as specified.

Were any issues or discrepancies noted on the Sample Receipt Checklist (a.k.a. Non-Conformance Form)? Were samples received in a sealed cooler, good condition, at proper temperatures? Identify and discuss.

The Sample Condition Upon Receipt Form indicated the samples were received in good condition and at the correct temperature. Headspace was noted on the Headspace Exception form. All VOCs samples included three VOA vials. Several VOAs had headspace observed that was >6mm in size. These are listed below:

Sample	# of VOAs with Headspace >6mm
LF-3	1
MW-5	3
MW-9A	3
MW-9B	3
MW-11	3
MW-12	3
MW-13	3
MW-20	1
MW-24	1
DUP-1	3
Trip Blank 1	1

The laboratory had sufficient volume to analyze the samples LF-3, MW-20, MW-24, and Trip Blank 1 without needing to use the VOAs that had >6mm headspace. Tetra Tech contacted Rhonda Johnson at Pace regarding the 7 samples with headspace >6mm as there was not laboratory notation or qualifier (e.g. "HS") indicating that the VOAs used contained >6mm headspace. Rhonda replied on 10-31-19 via e-mail stating that the VOAs were re-checked and the headspace measured with a ruler prior to analysis. At the time of the re-check, the headspace for all VOAs was <6 mm in size. Therefore the laboratory did not include the HS qualifier for the data. No qualifications were made.

Were the requested analytical methods in compliance with project requirements (i.e., QAPP, SAP, etc.)? Explain and, if not in compliance, discuss how this affects the data.

Yes. The water samples were analyzed for VOCs and nitrogen, NO₂+NO₃ by the required methods (8260B and 353.2).

7. LABORATORY COMPLIANCE WITH PROJECT REQUIREMENTS

Were samples analyzed within method-specified or technical holding times? Explain any exceptions and how this may affect the results.

Yes. Samples were collected June 10-13, 2019 and analyzed by June 19 and 24 for VOCs, and June 26-28 for Nitrogen, NO₂+NO₃, within the 14 day holding time for VOCs and 28 day holding time for Nitrate, NO₂+NO₃ and anions.

Do the laboratory reports include all constituents requested to be analyzed on the CoC or under the QAPP, SAP, or other applicable document? Explain.

Yes. Samples were analyzed as required as per the SAP

Were reported units appropriate for the associated sample matrix/matrices and method(s) of analyses? Explain.

Yes. The samples were analyzed by the methods specified in the SAP and units were reported for VOCs and metals as micrograms per liter (ug/L) and nitrates as milligrams per liter (mg/L) for comparison with standards/screening levels.

Were detection limits reported by the laboratory in accordance with the project requirements? Discuss and list.

All sample results were reported to the method detection limit. Several nitrate samples required dilutions of 5x, 10x, 20x, and 40x depending on sample concentrations. Reporting limits were adjusted accordingly. No qualification is required.

Results qualified by the laboratory based on the laboratory reporting limit. Discuss, as needed.

Results were qualified by the laboratory based on detection of concentrations between the MDL and laboratory reporting limit (aka LOQ or PQL). The results are listed below.

Sample	Analytical Parameter	Result	Qualifier
LF-2	cis-1,2-Dichloroethene	0.27 µg/L	J
MW-6	1,4-Dichlorobenzene	0.22 µg/L	J

Sample	Analytical Parameter	Result	Qualifier
MW-6	Benzene	0.18 µg/L	J
MW-6	Chloroethane	0.88 µg/L	J
MW-6	Tetrachloroethene	0.41 µg/L	J
MW-6	Trichloroethene	0.27 µg/L	J
MW-7A	Dichlorodifluoromethane	0.70 µg/L	J
MW-7A	Trichlorofluoromethane	0.27 µg/L	J
MW-7A	Vinyl chloride	0.10 µg/L	J
MW-7A	cis-1,2-Dichloroethene	0.30 µg/L	J
MW-8B	Trichloroethene	0.24 µg/L	J
MW-9A	1,1-Dichloroethane	0.29 µg/L	J
MW-9B	Dichlorodifluoromethane	0.64 µg/L	J
MW-10	Nitrogen, NO2 plus NO3	0.0080 µg/L	J,B
MW-10	Trichloroethene	0.30 µg/L	J
MW-12	1,4-Dichlorobenzene	0.43 µg/L	J
MW-13	Nitrogen, NO2 plus NO3	0.013 µg/L	J
MW-13	Chlorobenzene	0.20 µg/L	J
MW-13	Trichloroethene	0.21 µg/L	J
MW-17	1,2-Dichloropropane	1.8 µg/L	J
MW-17	Dichlorodifluoromethane	0.30 µg/L	J
MW-18	1,4-Dichlorobenzene	0.47 µg/L	J
MW-18	Benzene	0.18 µg/L	J
MW-18	cis-1,2-Dichloroethene	0.16 µg/L	J
MW-19	Toluene	0.27 µg/L	J
MW-20	Trichloroethene	0.27 µg/L	J
DUP1	1,2-Dichloropropane	0.22 µg/L	J
DUP1	Trichloroethene	0.34J	J
DUP2	1,4-Dichlorobenzene	0.44J	J
DUP2	Benzene	0.19J	J
DUP3	1,4-Dichlorobenzene	0.22J	J
DUP3	Benzene	0.17J	J
DUP3	Chloroethane	0.75J	J
DUP3	Tetrachloroethene	0.43J	J
DUP3	Trichloroethene	0.30J	J
TRIP BLANK 1	2-Propanol	38.7J	J
TRIP BLANK 1	Methylene Chloride	2.3J	J
TRIP BLANK 1	Tetrahydrofuran	7.7J	J
TRIP BLANK 2	2-Propanol	18.2J	J

8. LABORATORY QA/QC

8a. Continuing Calibration Verification (CCV) Standard

Was there indication from the laboratory that the initial or CCV results were within acceptable limits? Explain and include discussion on how any out-of-control results affect the accuracy of the data.

- QC Batch 614038: Results for 2-Hexanone and Acetone were outside the acceptance limits; results may be biased high for the LCS, MS, and MSD.
- QC Batch 615008: Results for Acetone were outside the acceptance limits; results may be biased high for the LCS, MS, MSD.

CCV data is not included with Level II data reports. However, in talking with Rhonda Johnson at Pace, she said the %D was outside control limits. Based on that, detected results for would be qualified as estimated, J, and non-detects would not require qualification. All associated sample results were non-detect; therefore, no qualification was required.

8b. Laboratory Control Samples (LCSs)

Was the reference material used for the laboratory control standard (LCSs) the correct matrix and concentration? Explain and include a discussion on how any matrix differences affects the accuracy of the data.

Yes, all LCSs were of aqueous matrix consistent with analytical media analyzed.

Was the total number of LCSs analyzed equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Three LCSs were analyzed for VOC samples and two for Nitrogen, NO₂+NO₃

Were LCSs prepared the same way as the associated samples? Explain and include a discussion of how any deviations affect the accuracy of the data.

Yes, the samples were prepared the same way as the associated samples.

Were LCS/LCSD percent recoveries and LCS/LCSD RPDs within laboratory QC limits? Explain and discuss on how any out-of-control results affect the accuracy of the data.

All LCS %Rs and RPDs were within control limits with the following exceptions.

- QC Batch 614038:
 - 2-Hexanone %R was above the QC limit, associated results may be biased high. Associated results were non-detect).
 - Acetone %R exceeded the QC limit but associated sample results were non-detect.
- QC Batch 615008: Acetone %R exceeded QC limit but associated samples were non-detect.
- QC Batch 615092: Carbon tetrachloride %R exceeded QC limit but associated samples were non-detect

No qualifications were required as all associated results with the above were non-detect.

8c. Laboratory Blank Samples

Was the total number of method blank samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Three method blanks were analyzed for VOCs and two for Nitrogen, NO₂+NO₃.

Were laboratory blank samples free of analyte contamination? Explain.

Yes. All method blanks were free of analyte contamination except the following:

- QC Batch 615063: Nitrogen, NO₂+NO₃ detected at 0.012 µg/L in method blank. The associated result for MW-10 was adjusted to report at the RL and qualified as non-detect, U, due to blank contamination.

Qualified results are listed below.

Sample	Analytical Parameter	Result	Qualifier
MW-10	Nitrogen, NO ₂ +NO ₃	Adjusted: 0.020 mg/L Original: 0.0080 mg/L	U

8d. Matrix Spike / Matrix Spike Duplicates

What project-specific samples were used to prepare the MS and MSD samples?

Non-project-specific samples included: 10480450002

Project-specific samples included: 10479716004 (MW-5), 10479716010 (MW-8B)

Was the total number of MS samples prepared equal to at least 5% (1 in 20) of the total number of samples, or analyzed as required by the method? Explain.

Yes. Five MS/MSDs were analyzed. One or more MS/MSDs was analyzed per analytical method, based on the number of samples analyzed..

Were MS percent recoveries and all MS/MSD relative percent differences (RPDs) within data validation or laboratory QC limits? Explain and include a discussion on how this affects the data.

All %Rs were within control limits with the following exceptions:

- QC Batch 614038:
 - Project-specific sample 10479716004 MS %R exceeded QC limit for 1,1-Dichloroethene, Carbon disulfide, Cyclohexane, Iodomethane, and trans-1,2-Dichloroethene. Batch accepted based on LCS recovery and associated results were non-detect.

- MSD %R exceeded QC limit for 1,1-Dichloroethene, Carbon disulfide, Cyclohexane, Iodomethane. Batch accepted based on LCS recovery and associated results were non-detect.
- QC Batch 615092:
 - Non-project-specific sample 10480450002 MS and MSD %Rs exceeded QC limit for Chlorethane. Batch accepted based on LCS recovery and all results , with the exception of the result for DUP 3 were non-detect. No qualifications were made on the MS %R alone.
- QC Batch 615092: MS and MSD sample 10480450002 - dilution required due to foaming of the sample in purge vessel.
- QC Batch 615207:
 - MS and MSD %Rs not evaluated against control limits due to sample dilution.
 - MS and MSD analyte concentration exceeded calibration range.

No qualifications were made based on MS/MSD data alone, as all associated LCS/LCSD recoveries and RPDs were within control limits.

8e. Laboratory Duplicates

Were laboratory duplicate RPD values within laboratory-specified limits? Explain and include discussion of how this affects the data.

Nitrogen, NO₂+NO₃ duplicate results were within control limits. No qualifications were made.

8f. Surrogates

Were surrogate recoveries within laboratory QC limits? Explain and include discussion on how this affects the data.

All surrogate recoveries were within control limits.

9. FIELD QA/QC

9a. Trip and Field Blanks

Were the number of equipment, trip, or field blanks collected equal to at least 10% of the total number of samples, or as required by the project requirements, QAPP, or SAP? Explain and include how this affects the data.

Two trip blankwere analyzed.

Were the trip blank, field blank, and/or equipment blank samples free of analyte contamination? Explain and include discussion of how this affects the data.

All blank results were non-detect except the following:

- Trip Blank 1 – 2-propanol (38.7 µg/L J), chloroform (1.7 µg/L), and Tetrahydrofuran (7.7 µg/L J)
- Trip Blank 2 – 2-propanol (18.2 µg/L J), methylene chloride (4.8 µg/L)

All associated results were non-detect with the exception of methylene chloride in MW-17 (14.2 µg/L), which was greater than 2x the blank result. No qualification was required.

9b. Field Duplicates

Were the field duplicates collected as required by the project requirements, QAPP or SAP? Include a table of duplicate samples. Explain and include discussion of how this affects the data.

Three field duplicates were analyzed:

Duplicate	Natural Sample
DUP 1	MW-13
DUP 2	MW-18
DUP 3	MW-6

Were field duplicate RPD values within data validation QC limits? Explain and include discuss of how this affects the data.

RPDs greater than 20% for results <5x the reporting limit were not qualified. All field duplicate RPDs were within control limits or did not require qualification with the exception of the following:

Sample	Analytical Parameter	Result	Qualifier
MW-18	Vinyl chloride	0.47 µg/L	J
DUP2	Vinyl chloride	0.58 µg/L	J
MW-6	Nitrogen, NO ₂ +NO ₃	0.73 mg/L	J
DUP3	Nitrogen, NO ₂ +NO ₃	0.35 mg/L	J

10. OTHER

Did EPA or other entities collect split samples? If so, explain how those results compare to the natural sample.

None.

Other comments or observations.

None.

11. SUMMARY OF QUALIFIED DATA

The following data was qualified during this data validation effort.

Sample ID	Analyte	Result	Data Qualifier	Reason
LF-2	cis-1,2-Dichloroethene	0.27 µg/L	J	Result between RL and MDL.
MW-6	1,4-Dichlorobenzene	0.22 µg/L	J	Result between RL and MDL.
MW-6	Benzene	0.18 µg/L	J	Result between RL and MDL.
MW-6	Chloroethane	0.88 µg/L	J	Result between RL and MDL.
MW-6	Tetrachloroethene	0.41 µg/L	J	Result between RL and MDL.
MW-6	Trichloroethene	0.27 µg/L	J	Result between RL and MDL.
MW-6	Nitrogen, NO ₂ +NO ₃	0.73 mg/L	J	Field duplicate RPD above 20%
MW-7A	Dichlorodifluoromethane	0.70 µg/L	J	Result between RL and MDL.
MW-7A	Trichlorofluoromethane	0.27 µg/L	J	Result between RL and MDL.
MW-7A	Vinyl chloride	0.10 µg/L	J	Result between RL and MDL.
MW-7A	cis-1,2-Dichloroethene	0.30 µg/L	J	Result between RL and MDL.
MW-8B	Trichloroethene	0.24 µg/L	J	Result between RL and MDL.
MW-9A	1,1-Dichloroethane	0.29 µg/L	J	Result between RL and MDL.
MW-9B	Dichlorodifluoromethane	0.64 µg/L	J	Result between RL and MDL.
MW-10	Nitrogen, NO ₂ plus NO ₃	Adjusted: 0.020 mg/L Original: 0.0080 mg/L	UJ	Result between RL and MDL. Result adjusted to RL and qualified as non-detect due to method blank contamination.
MW-10	Trichloroethene	0.30 µg/L	J	Result between RL and MDL.
MW-12	1,4-Dichlorobenzene	0.43 µg/L	J	Result between RL and MDL.
MW-13	Nitrogen, NO ₂ plus NO ₃	0.013 µg/L	J	Result between RL and MDL.
MW-13	Chlorobenzene	0.20 µg/L	J	Result between RL and MDL.
MW-13	Trichloroethene	0.21 µg/L	J	Result between RL and MDL.
MW-17	1,2-Dichloropropane	1.8 µg/L	J	Result between RL and MDL.
MW-17	Dichlorodifluoromethane	0.30 µg/L	J	Result between RL and MDL.
MW-18	1,4-Dichlorobenzene	0.47 µg/L	J	Result between RL and MDL.
MW-18	Benzene	0.18 µg/L	J	Result between RL and MDL.
MW-18	cis-1,2-Dichloroethene	0.16 µg/L	J	Result between RL and MDL.
MW-18	Vinyl chloride	0.47 µg/L	J	Field duplicate RPD above 20%
MW-19	Toluene	0.27 µg/L	J	Result between RL and MDL.
MW-20	Trichloroethene	0.27 µg/L	J	Result between RL and MDL.
DUP1	1,2-Dichloropropane	0.22 µg/L	J	Result between RL and MDL.
DUP1	Trichloroethene	0.34J	J	Result between RL and MDL.
DUP2	1,4-Dichlorobenzene	0.44J	J	Result between RL and MDL.
DUP2	Benzene	0.19J	J	Result between RL and MDL.

Sample ID	Analyte	Result	Data Qualifier	Reason
DUP2	Vinyl chloride	0.58 µg/L	J	Field duplicate RPD above 20%
DUP3	1,4-Dichlorobenzene	0.22J	J	Result between RL and MDL.
DUP3	Benzene	0.17J	J	Result between RL and MDL.
DUP3	Chloroethane	0.75J	J	Result between RL and MDL.
DUP3	Tetrachloroethene	0.43J	J	Result between RL and MDL.
DUP3	Trichloroethene	0.30J	J	Result between RL and MDL.
DUP3	Nitrogen, NO ₂ +NO ₃	0.35 mg/L	J	Field duplicate RPD above 20%
TRIP BLANK 1	2-Propanol	38.7J	J	Result between RL and MDL.
TRIP BLANK 1	Methylene Chloride	2.3J	J	Result between RL and MDL.
TRIP BLANK 1	Tetrahydrofuran	7.7J	J	Result between RL and MDL.
TRIP BLANK 2	2-Propanol	18.2J	J	Result between RL and MDL.

12. DEVIATIONS FROM THE QAPP

List and discuss deviations from the QAPP identified during this review.

- Incomplete COCs is a deviation from the SAP.

13. ACCEPTABILITY AND USABILITY OF THE DATA

A review of the chain of custody forms and laboratory case narratives indicate that proper chain of custody was maintained. The appropriate preparation and analysis methods were performed on the samples based on the intended use of the data. The cooler temperatures were measured upon laboratory receipt and were within control limits. All samples were received preserved, in intact, and in good condition. Several sample VOA vials contained headspace; however, none of the data required qualification.

All samples were analyzed within method holding time requirements. Laboratory quality control (QC) sample analyses performed for each analytical method are summarized as part of the laboratory analytical package.

The following Stage 2A verification and manual validation checks were performed as part of this project:

1. Requested methods were performed;
2. Method dates for handling, preparation and analysis were present, as appropriate;
3. Sample-related QC data and QC acceptance criteria were provided in the laboratory report and linked to the project samples including the field QC samples (trip blank);
4. Requested spike analytes were added, as appropriate;
5. Sample holding times were evaluated;
6. Frequency of QC samples was checked and considered appropriate; and
7. Sample results were evaluated by comparing holding times and sample-related QC data to EPA and project data validation guidelines.

Precision

Precision is the measure of agreement among individual measurements of the same property under similar conditions. Precision for this project has been expressed in terms of the relative percent difference (RPD) between two samples. Duplicate samples can be evaluated quantitatively for precision only when contaminants are detected in both the sample and the duplicate. Duplicates with RPDs within the control limits indicate adequate sampling practices and/or good analytical precision. Duplicates with RPDs outside the control limits may result from inappropriate sampling procedures, matrix interferences, or non-homogeneity of the sample matrix. In addition, poor precision can be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the detection limits.

Precision was evaluated for this project by comparing field duplicate results, laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD results, and matrix spike/matrix spike duplicate (MS/MSD) RPD results for project samples. Project-specific MS/MSDs were collected in the field by Tetra Tech and analyzed the laboratory. However, if the laboratory duplicate or MS/MSD analysis was performed by the laboratory on samples for another client's project within the same method batch, any qualifiers applied to the data are not applicable to this project's samples.

All soil LCS/LCSD, laboratory duplicate, field duplicate, and MS/MSD RPDs for soil were within the QC limits or did not require qualification. Exceptions include the field duplicate RPDs for vinyl chloride for samples DUP2 and MW-18 and the Nitrogen,

NO₂+NO₃ RPDs for DUP3 and MW-6. The natural and field duplicate results for these samples were qualified as estimated, J, due to RPDs above 20%.

Accuracy

The assessment of accuracy is evaluated by comparing the percent recoveries (%R) computed from the known concentration of analyte spikes and their recovered concentration versus the analytical method acceptance criteria. Spike recoveries provide an indication of bias, where the reported data may either overestimate or underestimate the actual concentration of detected compounds and/or the detection limits. Accuracy was assessed using surrogate recovery data, LCS/LCSD recovery data, and MS/MSD recovery data for project samples. All LCS/LCSD, MS/MSD, surrogate recoveries, and internal standard response and retention times were within control limits.

All soil surrogate, LCS/LCSD, and MS/MSD recovery data were within control limits or did not require qualification.

Representativeness

Representativeness of the environmental sample analytical data was assessed by evaluating holding times, trip blank, and laboratory method blank results.

- Holding Times. All samples were analyzed within the method-required preparation and analytical holding times.
- Trip, Field, and Equipment Blanks: Trip blanks were free of analytes. No other blanks were collected.
- Method Blanks. All method blanks were free of contamination or did not require qualification with the exception of the Nitrogen, NO₂+NO₃ result for MW-10, which required the result to be adjusted to the reporting limit and qualified as non-detect, U.

Comparability

All samples were collected and handled using industry standard procedures and analyzed using appropriate EPA analytical methods. Sample results were reported in appropriate units. The analytical methods are considered acceptable for generating analytical data for the purpose of this project.

Completeness

Completeness is the quantitative measure of the amount of data obtained from a measurement process compared with the amount expected to be obtained under the conditions of measurement. The data collected during this project are considered 100 percent complete. The overall data quality objective for completeness for the sampling events is >90%.

Sensitivity

Reporting limits and method detection limits were below the screening levels, with exception of those reporting limits that were elevated due to sample matrix or dilution requirements. When a reporting limit exceeded the screening level, the corresponding MDL was evaluated. Data with MDLs below the screening levels required no further evaluation. If a compound was detected below the reporting limit, but above the MDL, the laboratory qualified the value as estimated and assigned a "J" qualifier. These laboratory-assigned "J" qualified results are considered estimated results.

- Several results were qualified as estimated, J, due to detection between the MDL and RL.

The laboratory assigned notations/qualifiers are often for informational purposes. These notations/qualifiers do not necessarily indicate that the results should be considered estimated but may help in evaluating whether results should be considered estimated through this data validation effort. However, exceptions include those samples that were specified by the laboratory to be estimated due to issues or concerns identified within the data package.

Summary

Overall the analytical data are considered acceptable and have met the quality control and quality assurance objectives and goals of this project. No data were rejected. All results, as qualified, are considered usable for meeting project objectives. Qualifications made during this project are discussed above.

Morrow, Natalie

From: Rhonda Johnson <Rhonda.Johnson@pacelabs.com>
Sent: Thursday, October 31, 2019 1:10 PM
To: Beverly Faraday; Morrow, Natalie
Subject: Re: Pace #10479716

⚠ CAUTION: This email originated from an external sender. Verify the source before opening links or attachments. ⚠

I spoke with the department manager. He told me that just prior to analysis they re-check the vials for head-space and actually use a ruler to measure the head-space. The samples in question were deemed to have <6 mm of head space, therefore samples were not footnoted despite the comment on the login documents.

>>> "Morrow, Natalie" <Natalie.Morrow@tetrattech.com> 10/30/2019 12:14 PM >>>

There were several samples that had all three VOAs with headspace >6mm but there are no notations on the surrogates for these samples to indicate that the VOAs used had >6mm headspace. Is it possible to get the report revised to reflect that VOAs with headspace >6mm were used?

Natalie J. Morrow, LG, LHG | Project Manager / Sr. Environmental Geologist
Direct +1 (406) 327-5235 | Business +1 (406) 543-3045 | Mobile +1 (406) 370-9115 | Fax +1 (406) 543-3088 |
natalie.morrow@tetrattech.com

Tetra Tech, Inc. | *Leading with Science*® | ECA
2525 Palmer Street, Suite 2 | Missoula, MT 59808 | tetrattech.com

This message, including any attachments, may include privileged, confidential and/or inside information. Any distribution or use of this communication by anyone other than the intended recipient is strictly prohibited and may be unlawful. If you are not the intended recipient, please notify the sender by replying to this message and then delete it from your system.



Please consider the environment before printing. [Read more](#)



APPENDIX E

LGES WELL LOG GW-18A

PROJECT NUMBER: 114-560487B.200
 NAME: Bozeman Landfill

MONITORING WELL/BORING NO. GW-18A
 SHEET 1 OF 2
 LOCATION: ~15' N of GW-18

DRILL TYPE: SOIL: Soil Cap then Garbage

ROCK: _____
 DRILLED BY: O'Keefe
 LOGGED BY: M.F. Pearson
 REMARKS: Rig: Foremost DR 24

ELEVATION: TOP OF HOLE: _____
 (ft) GROUNDWATER: _____
 DATE: STARTED: 10/9/18 COMPLETED: 10/10/18
 TIME: STARTED: 9:00 COMPLETED: 15:00

9.8" Dual Air Rotary w/
 and 10" Casing (steel)

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENET. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS						
					HNA (PID) HEADSPACE	OWA (FID) HEADSPACE	ODOR	STAINING			
0.0		Soil Cap - brown, moist, Silt									
3.0											Cave-in
5.0											Concrete Grout w/ 20% Bentonite
9.8		Garbage - Obs. plastic, darker brown to gray color									
11.2											Top of Soil
11.8											Top of Bentonite Chips
15.0											Top of Gravel 15.75'
17.9											17.9' Top of screened section
20.58											20.58
24.5											9'4.5"
29.38											9.38
30.0		Driller now adding water									

- 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
45'



SPT 114-10-30/1811-104.FLS

PROJECT: NUMBER: 114-560487 B. 200
 NAME: BOZEMAN Landfill

MONITORING WELL NO. GW-18A
 SHEET 1 OF 1
 LOCATION: ~ 15' N of GW-18

DRILL TYPE: SOIL: Soil Cap then Garbage
 ROCK: _____

DRILLED BY: O'Keefe w/ Foremost DR 24

LOGGED BY: M.F. Pearson

REMARKS: Used 9.8" diameter tricone drill bit and 10" (ID) Steel Casing

DATE: HOLE STARTED: 10/9/18

COMPLETED: 10/10/18


PVC stickup = 2.5' above g.s.

ELEVATIONS

Top of Protective Casing _____

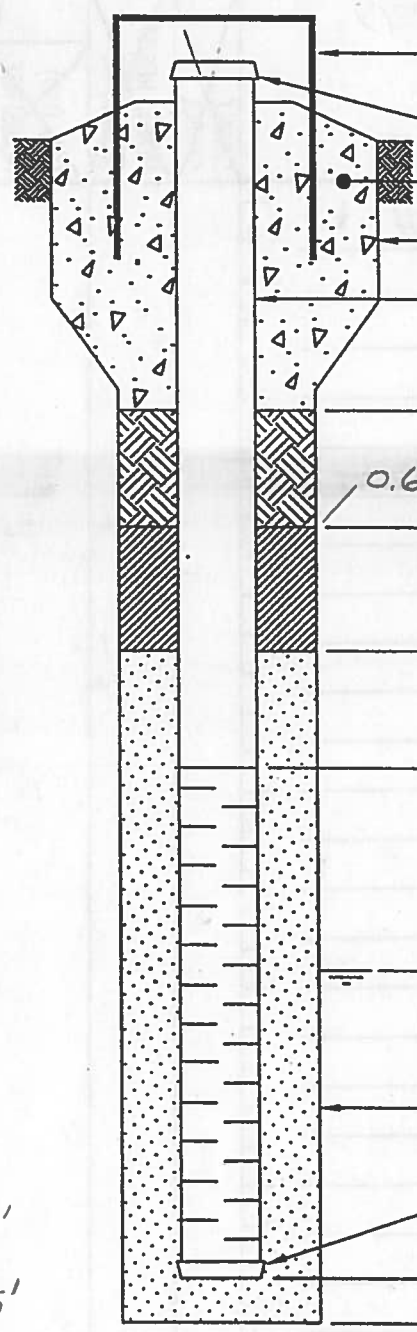
Top of PVC Casing 4799'

Top of Ground Surface 4796.5'

 Groundwater 4763.7'

Bottom of Well Screen 37.5' bgs = 4759'

Bottom of Boring 45' bgs = 4751.5'



Protective Casing Type None

Water Tight PVC Cap Type Temporary Plug

Surface Seal Type None

Surface Seal Dia. ~ 10"

PVC Casing Type Sch 80

Depth to Top of Secondary Seal 3.0'

Secondary Seal Type Concrete Grout w/ 20% Bentonite

0.6' Soil Layer

Depth to Top of Bentonite Seal 11.8'

Bentonite Seal Type 3/8" Chips

Depth to Top of Filter Pack 15.75'

Filter Pack Type 3/4" Washed Gravel

Depth to Top of Well Screen 17.9'

PVC Well Screen Type Sch 80, 0.05-inch machine-slotted

Depth to Initial Static Water Level 32.82' below g.s.
 (Date 10/15/18)

Boring Diameter 10"

PVC Cap Type Sch 80 Threaded Cap

Depth to Bottom of PVC Cap 37.9'

Depth to Bottom of Boring 45'

NOT TO SCALE

Clayey Soil had caved from 40.5' to 45'

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



MAX-10-20-2011-11.DWG

PROJECT: NUMBER: 114-560487B.200
 NAME: Bozeman Landfill

MONITORING WELL/BORING NO. GW-18A
 SHEET 2 OF 2
 LOCATION: ~15' N of GW-18

DRILL TYPE: SOIL: _____
 ROCK: _____
 DRILLED BY: _____
 LOGGED BY: M.F. Pearson
 REMARKS: _____

ELEVATION: TOP OF HOLE: _____
 (ft) GROUNDWATER: _____
 DATE: STARTED: 10/9/18 COMPLETED: 10/10/18
 TIME: STARTED: 900 COMPLETED: 1500

DEPTH (ft.)	LEGEND	CLASSIFICATION AND DESCRIPTION	SAMPLE SYMBOL	PENETR. RESIST. (BLOWS/ft.)	FIELD SCREENING RESULTS					
					HND (PID) HEADSPACE	OWA (FID) HEADSPACE	ODOR	STAINING		
30.0	□	Cont'd Garbage More wood material 10/15/18 Leachate level = 32.82'								
35.0	□	Interval of Wood (Wet, Gray - difficult drilling)								
40.0	□	Household Garbage Steel casing pushed to 40.5' bgs								
45.0	▨	Clayey Soil - dark gray, moist w/ some wood frag. ~ 5-10% Base of Garbage ~ 44' Inferred								
20.0		Threaded (Female) End Plug is 5.5" in length								
25.0		PVC casing was bridged a couple times during steel casing pullout and installing gravel such that it lifted from 40.5' to 37.9' bgs or 2.6' (calculated)								
30.0										

6" Diam. Sch. 80 PVC w/ 0.05" slots (machined)

3/4" Washed Gravel
 10" or 0.83' Diam. Borehole
 Casing TD = 37.9' w/ end cap (0.42')
 40.5'
 Cased & Filled in w/ clayey soil when hole was 45' cleaned out

TD of Borehole

- 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
45'



MAY 2010-10-99/1811-101.010

APPENDIX F

RADIUS OF INFLUENCE FIELD DATA FORMS AND BAROMETRIC PRESSURE DATA

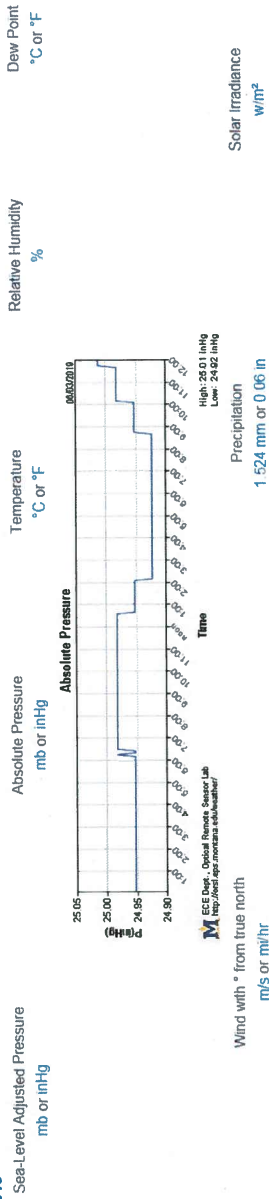
Weather Station

Operated by the Optical Remote Sensor Laboratory, Dr. Joseph Shaw,
 Montana State University, Electrical and Computer Engineering Department

- Current Data
- Today's History
- Archived Data
- Information About Units
- Information About Sensors
- Where Are We?
- Linking To Our Page
- Our Research
- Contact Us



Data for 06/03/2019



* Select the desired unit above to view this corresponding chart.
 (Example: clicking °F above the chart in Fahrenheit.)

It costs significant money and time to maintain this weather station and its database. Therefore, data from this weather station used as a minor element of a study should be published with an acknowledgment to "the Montana State University weather station operated by Dr. Joseph A. Shaw," while data used as a larger element of a study should be published with us as coauthor.

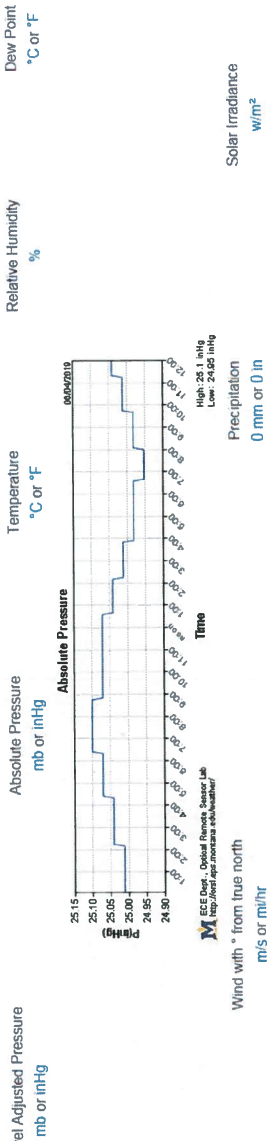
Weather Station

Operated by the Optical Remote Sensor Laboratory, Dr. Joseph Shaw,
 Montana State University, Electrical and Computer Engineering Department

- Current Data
- Today's History
- Archived Data
- Information About Units
- Information About Sensors
- Where Are We?
- Linking To Our Page
- Our Research
- Contact Us



Data for 06/04/2019



* Click the labels on above to view the corresponding chart.
 (Example: clicking °F shows the chart in Fahrenheit.)

It costs significant money and time to maintain this weather station and its database. Therefore, data from this weather station used as a minor element of a study should be published with an acknowledgment to the Montana State University weather station operated by Dr. Joseph A. Shaw, while data used as a larger element of a study should be published with us as coauthor.

Weather Station

Operated by the Optical Remote Sensor Laboratory, Dr. Joseph Shaw,
 Montana State University, Electrical and Computer Engineering Department

- Current Data
- Today's History
- Archived Data
- Information About Units
- Information About Sensors
- Where Are We?
- Linking To Our Page
- Our Research
- Contact Us



Data for 06/05/2019

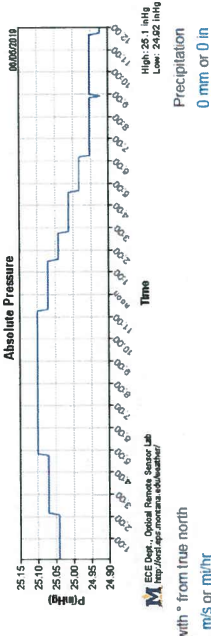
Sea-Level Adjusted Pressure
mb or inHg

Absolute Pressure
mb or inHg

Temperature
°C or °F

Relative Humidity
%

Dew Point
°C or °F



* Select the desired unit above to view the corresponding chart.
(Example: Showing °F above the chart in Fahrenheit.)

It costs significant money and time to maintain this weather station and its database. Therefore, data from this weather station used as a minor element of a study should be published with an acknowledgment to "the Montana State University weather station operated by Dr. Joseph A. Shaw," while data used as a larger element of a study should be published with us as coauthor.

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 1 IA(x)

RECORDED BY Kirk Miller marks Pearson TIME DURATION

DATE 10/23/18 + (10/24)

SVE WELLS CLOSED	3	10	4	11	5	12	6	13	1	14	15	8	9
Screen Length (ft)	15	10	11	10	10	10	6	10	25	10	10	43	10
Total Depth (fbs)	34	20	22	20	20	20	35	20	42	20	22	62	20
TIME CLOSED	<u>3:42</u>	<u>10:40</u>	<u>10:37</u>	<u>3:40</u>	<u>10:30</u>	<u>10:28</u>	<u>3:35</u>	<u>10:25</u>					

WEATHER clear cool calm

Include barometric pressure trend

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS → None. 10/23/18 PID @ Shark 6'0.5 m at SVE main inlet at Flare = 0.12 ppm
Leak @ or leak in AJ-3 10/24/18 @ 1140 SVE-1 PID = 0.0 ppm (Emission not w/kg) w/ bag " " " " 12.10 SVE-15 PID = 0.6 ppm

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-3	5:13	-0.46	SVE-10	10:45	0.0	SVE-11	2:47	0.0	SVE-14	2:19	-1.54	SVE-15	5:43	-1.06
↓	6:25	-0.43	TESTA	5:14	0.00	↓	5:14	0.00	↓	5:17	-0.12	↓	6:47	-1.56
↓	10/24, 1130	-0.42	↓	6:25	0.00	↓	6:25	0.00	↓	6:30	-0.12	↓	10/24, 1205	-1.57
			↓	10/24, 1130	0.000	↓	10/24, 1130	0.000						
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-6	5:18	0.00	SVE-13	1:58	-0.98	SVE-1	2:51	-0.94	SVE-14	3:08	-1.54			
↓	6:30	0.00	↓	2:51	-0.94	↓	5:27	-0.94	TESTA					
↓	10/24, 1135	0.000	↓	6:35	-0.93	↓	6:35	-0.93						
			↓	10/24, 1140	-0.91	↓	10/24, 1140	-0.91						
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-8	5:44	-3.29	SVE-16	2:24	0.003	SVE-9	5:45	-0.01						
↓	6:48	-3.26	↓	5:10	0.0	↓	6:50	0.0						
			↓	10/24, 1205	-3.27	↓	10/24, 1215	-0.007						

1 A(X)

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST #

1

TIME DURATION

PAGE 2 OF 3

RECORDED BY KVK's MILK MARK REVISION

DATE 10/23/18 (+ 10/24)

SVE WELLS CLOSED	3	4	5	6	12	13	14	15	8	16	9
Screen Length (ft)	15	10	10	6	10	10	20	25	10	30	42
Total Depth (lbs)	34	20	20	35	20	20	42	47	20	52	71
TIME CLOSED	3:42	10:40	10:37	3:40	10:30					10:28	10:23
WEATHER	clear, 50°										

Include barometric pressure trend

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS → NONE

Grout for pressure measurement in BSV-15 during Test 1 A @ 5 a.m. Did not record. Increased from -0.2 to only during summer. Reported @ 6:20 pm w/ similar observations 0.0

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
BSV-11S	1:30	0.0	BSV-15	1:36	-0.046	BLG-5	1:39	-0.0	BSV-12S	1:47	0.004	BSV-14M	1:43	+0.004			
↓	2:40	0.0	↓	2:42	-0.049	↓	2:39	0.0	↓	2:36	0.0	↓	2:36	0.0			
↓	4:59	-0.003	↓	5:00	0.0	↓	4:57	0.0	↓	4:54	0.0	↓	4:54	-0.004			
↓	6:17	-0.004	↓	6:18	0.005	↓	6:16	-0.003	↓	6:13	0.0	↓	6:13	0.0			
↓	10/24 11:25	0.000	↓	10/24 11:25	-0.05	↓	10/24 11:20	0.0	↓	10/24 11:15	0.0	↓	10/24 11:15	0.0			
					steady												
BSV-12D	1:43	+0.011	BSV-10	1:48	-0.025	BSV-10S	1:57	-0.070	BSV-10D	1:58	-0.10	BSV-14S	2:00	-0.13			
↓	2:37	+0.008	↓	2:43	-0.026	↓	2:55	-0.063	↓	2:55	-0.109	↓	2:56	-0.125			
↓	4:55	-0.008	↓	5:05	-0.029	↓	5:30	-0.079	↓	5:31	-0.103	↓	5:31	-0.145			
↓	6:04	0.0	↓	6:20	-0.033	↓	6:36	-0.068	↓	6:36	-0.095	↓	6:37	-0.128			
↓	11:15	+0.004	↓	10/24 11:30	-0.03	↓	10/24 11:55	-0.066	↓	10/24 11:55	-0.10	↓	10/24 12:00	-0.12			
BSV-14D	2:00	-0.169	BSV-4	2:03	0.0	BSV-3	2:10	0.0	BSV-3S	2:12	-0.05	BSV-3M	2:12	-0.07			
↓	2:56	-0.166	↓	2:58	0.0	↓	3:06	0.0	↓	3:05	-0.105	↓	3:05	-0.074			
↓	5:32	-0.186	↓	5:33	0.003	↓	5:41	-0.004	↓	5:40	-0.014	↓	5:40	-0.078			
↓	6:37	-0.170	↓	6:39	0.0	↓	6:47	0.0	↓	6:44	-0.059	↓	6:44	-0.072			
↓	10/24 12:00	-0.17	↓	10/24 12:00	0.0	↓	10/24 12:25	0.000	↓	10/24 12:20	-0.05	↓	10/24 12:20	-0.06			

Test 1A

Test 1A

Test 1A

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 2 (0) Test 2A (x)

DATE 1/15/19 RECORDED BY MF Pearson TIME DURATION PAGE 1 OF 1

SVE WELLS CLOSED	TIME DURATION															
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Screen Length (ft)	15	10	10	10	10	10	10	20	25	25	10	30	10	43	42	
Total Depth (bgs)	34	20	20	20	20	35	20	42	47	47	20	52	22	62	71	
<p>→ TIME CLOSED <u>1/14/19</u> <u>1635</u> → <u>1632</u> → <u>1617</u> → <u>1614</u></p> <p>WEATHER <u>Calm, Clear, Dry</u> <u>920</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>915</u> <u>909</u></p> <p>Include barometric pressure trend → <u>1/15/19: 923</u> <u>Test 2 & 2A Mon. Conducted 1/15/19</u></p> <p>ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS</p>																

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	
			SVE-10	900	+0.015	SVE-4			BSV-15	903	-0.055	SVE-5	857	+0.006	SVE-6						
			Test 2A						Test 2A						Test 2A						
			SVE-10	1150	+0.029	SVE-4	1152	+0.024	BSV-15	1205	-0.033	SVE-5	1148	+0.015	SVE-6	1142	NM				
			SVE-3 opened	1008	1155	-1330															
			SVE-10	1212	+0.030																
			SVE-10	1328	+0.025																
									SVE-1												
			SVE-13	848 (2)	-0.58				SVE-1												
			Test 2A						Test 2A												
			SVE-13	1140	-2 (2)	BSV-14	1120	0.000	SVE-1	1128	+0.032	SVE-14	1129	+0.007	SVE-8	1059	-0.040				
			SVE-13	1315	-3.0(2)																
			SVE-13	1321	-0.19 stable				SVE-2												
									SVE-1	1135	-0.04										
									SVE-2												
			BSV-13	838	-0.04	BSV-13	838	-0.054	SVE-1	1540	-0.035										
			Test 2A						Test 2A												
			BSV-13	1100	-0.024	BSV-13	1100	-0.030	SVE-9	1055	-0.012	SVE-3	1110	0.00							

- (2) Heads, initially -2 vacuum then dropping For SVE-13 2" vacuum likely due to arbitrarily opening SVE-2 to 100%
- (3) opened SVE-1 100% and observed slow inc. in vacuum
- (4) Initially 0.008 then becoming vacuum SVE-16 orifice plate crackle is not air tight - Replaced 0.5" orifice in steel 0.75" orifice with 1" stainless steel orifice

Test 1A BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 1(4) Test 1A(x)

SVE WELLS CLOSED	3	4	5	6	7	8	9
Screen Length (ft)	15	11	10	10	10	10	43
Total Depth (lbs)	34	22	20	20	20	22	62
TIME CLOSED	1450	1000	1005	1008	1008		

WEATHER Clear, sl. breeze, 20-30°F, 8" snowpack Closed AI-wells
 Include barometric pressure trend Rising - see charts

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS At 1500 Reset SVE- and AI-wells to open west to east

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
BSV-12	1416	0.000	BLG-5	1414	-0.003	SVE-4	1400	+0.015	BSV-11S	1410	-0.004	BSV-15	1412	-0.05	BLG-10	1413	-0.027
	1416	0.000							BSV-11D	1410	-0.007						
	1416	+0.007															
			BLG-5	1457	0.000	SVE-4	1506	+0.014	BSV-11S	1505	0.000	BSV-15	1500	-0.04	BLG-10	1502	-0.019
									BSV-11D	1505	-0.002						
						SVE-4	1510	Reset and proceed deplanning (slightly) AI-wells from west to east									
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
			SVE-12	1470	+0.15				SVE-17	1425	-0.006						
				1440	-0.08 ↑ *					1430	-0.64 %/orig. O-plate + closed V						
				1442	+0.2												
				1512	-0.3 ↑ **					1521	+0.010 following opening AI-4 (?)						
				1515	Reset					1523	Reset						
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-3	1454	+0.012															
	1507	+0.012															
	1510	Reset															

Test 1A

Test 1A

↑ Vacuum incr. slowly
 * orig. O-plate put in w/ shut & ED valve
 ** started at +0.3 then dropped

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 1

DATE 6/3/19

PAGE 1 OF 9

RECORDED BY _____ TIME DURATION _____

SVE WELLS CLOSED	3	10	4	11	5	12	6	13	2	1	14	7	15	8	16	9
Screen Length (ft)	15	10	11	10	10	10	6	10	20	25	10	30	10	43	10	42
Total Depth (lbs)	34	20	22	20	20	20	35	20	42	47	20	52	22	62	20	71
TIME CLOSED				<u>1000</u>			<u>1000</u>			<u>1007</u>			<u>1007</u>			

WEATHER

Include barometric pressure trend

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS Test SVE-11 E ROI Test SVE-8 W ROI

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-11	E ROI Test		SVE-8	W ROI Test	10% Valve	SVE-15	1205	-0.008	SVE-7	1155	Incr. to 30% Valve	SVE-15	1210	-0.010	SVE-8	1194	CFM
SVE-5	1110	-0.02	SVE-7	1145	0.000	SVE-15	1210	-0.010	SVE-8	1213	50% Valve	SVE-8	1210	-0.010	SVE-8	1293	CFM
↓	1130	-0.02	SVE-8	1155	0.000	SVE-15	1210	-0.010	SVE-8	1213	50% Valve, after testing	SVE-8	1210	-0.010	SVE-8	1293	CFM
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 1A

DATE 6/3/19

RECORDED BY MFP

TIME DURATION

PAGE 2 OF 9

SVE WELLS CLOSED	3	10	4	11	5	12	6	13	2	1	14	7	15	8	16	9
Screen Length (ft)	15	10	11	10	10	10	6	10	20	25	10	30	10	43	10	42
Total Depth (bgs)	34	20	22	20	20	20	35	20	42	47	20	52	22	62	20	71
TIME CLOSED																
WEATHER																
Include barometric pressure trend																
ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS																

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS Test SVE-7 E & W R01

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-7	1430	5% valve	SVE-14	1425	0.000	SVE-15	1433	0.000									
BLG-4 _{new}	1437	Incr. to 15% valve															
BLG-4 _{new}	1450	0.000	SVE-14	1456	0.000	SVE-15	1445	-0.000									
BLG-4 _{new}	1455	Incr. to 30% valve															
			SVE-14	1520	+0.015	SVE-15	1522	+0.020									
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
	1520	Incr. to 60% valve															
BLG-4 _{new}	1545	0.000	SVE-14	1540	0.000	SVE-15	1530	0.000									
	1650	EM of Test for SVE-7															

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 2

DATE 6/3/19 to 6/4/19

RECORDED BY MFP

PAGE 4 OF 9



SVE WELLS CLOSED	3	4	11	5	12	6	13	2	1	14	7	15	8	16	9
Screen Length (ft)	15	10	10	10	10	6	10	20	25	10	30	10	43	10	42
Total Depth (lbs)	34	20	20	20	20	35	20	42	47	20	52	22	62	20	71
TIME CLOSED	<u>6/3/19 6:13:00 to 6:16:00</u>			<u>6/3/19 6:16:00 to 6:18:00</u>			<u>6/3/19 6:18:00 to 6:20:00</u>			<u>6/3/19 6:20:00 to 6:22:00</u>			<u>6/3/19 6:22:00 to 6:24:00</u>		

WEATHER
 Include barometric pressure trend
 ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS For 6/4/19 testing Test SVE-15 Flow ROI
Test SVE-6
Test SVE-1

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-5	905	-0.022	SVE-12	910	-0.013	SVE-13	912	-0.017	SVE-2	917	-0.039						
	1025	SVE-6	Flow decr. from 100% to 10% valve @ 10 CFM														
		SVE-12	1115	1116	-0.01	SVE-13	1116	-0.01									
			1126	1125	-0.01			Breeze coming up									
			1330	1330	-0.01			+0.01 to -0.01									
	1335	SVE-6	will need to reset to a setting to maintain Flow ROI shot for SVE-13 test														
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-14	945	0.000	SVE-17	950	-0.015	SVE-8	952	-0.11	SVE-16	956	-0.000	BSV-13s	1005	-0.011	BSV-13s	1228	-0.01
	1015	SVE-15	Flow incr. from 11% to 5 CFM					to 25% valve @ 7 CFM, CH4						-0.015	BSV-13d		-0.01*
			1042	1042	-0.005	SVE-8	1044	+0.04						-0.017	BSV-13d		-0.02*
		SVE-15	Flow incr. to 100% valve @ 9 CFM					(w/ 1" O-plate)						-0.003	BSV-3	1220	-0.01
SVE-14	1210	0.000	SVE-7	1106	-0.027	SVE-8	1105	+0.03									
	1750	SVE-15	Leave at 11% valve and 1-in. O-plate														
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
Test SVE-1 ROI																	
SVE-2	1200	-0.025	SVE-14	0.000	to +0.01												
	1205	SVE-1	Flow decr. from 8 CFM to 4 CFM (w/ fluctuation)														
SVE-2	1211	-0.02	SVE-14	1210	0.000												
SVE-2	1315	-0.005	SVE-14	1316	+0.01												
	1315	SVE-1	Return to 8 CFM because at 4 CFM, meas. 12% CH4														

* Fluctuation -0.01 to -0.03
 * BSV-13d up to 0.04

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 2A

DATE 6/4/19

PAGE 5 OF 9

RECORDED BY _____ TIME DURATION _____

SVE WELLS CLOSED	3	10	4	11	5	12	6	13	2	1	14	7	15	8	16	9
Screen Length (ft)	15	10	11	10	10	10	6	10	20	25	10	30	10	43	10	42
Total Depth (bgs)	34	20	22	20	20	20	35	20	42	47	20	52	22	62	20	71
TIME CLOSED	<u>1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130 1130</u>															

WEATHER

Include barometric pressure trend

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS Test SVE-5 F & W ROI

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-5	11245	-0.019	F & W ROI	Test													
SVE-11	1245	-0.019	SVE-12	1245	-0.014												
			SVE-12	1255	-0.019												
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE

BOZEMAN LANDFILL SVE RADIUS OF INFLUENCE TEST # 2B

DATE 6/4/19

RECORDED BY 2B

PAGE 6 OF 9

SVE WELLS CLOSED	TIME DURATION														
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Screen Length (ft)	15	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Total Depth (lbs)	34	20	20	20	20	20	20	20	20	20	20	20	20	20	20
TIME CLOSED	6/4-1400 6/3	6/3	6/4-1340	6/3	6/4-1320	6/3	6/4-1320	6/3	6/4-1320	6/3	6/4-1320	6/3	6/4-1310	6/3	6/4-1320
WEATHER	Include barometric pressure trend														

ADJUSTMENTS MADE TO RESTORE SVE WELL FLOWS
 Test SVE-13 E & W RO1
 SVE-14
 SVE-3 E RO1

VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE	VMP	TIME	PRESSURE
SVE-10	1658	0.000	SVE-4	1656	-0.02												
SVE-10	1730	0.000 to +0.01	SVE-4	1731	-0.02												
SVE-10	1030	+0.01	SVE-4	1029	-0.017												
SVE-10	1140	0.000	SVE-4	1141	-0.02												
SVE-12	1643	-0.009	SVE-6	1644	+0.01												
SVE-13	1645	0.000	SVE-13	1645	0.000												
SVE-12	1722	-0.003	SVE-6	1720	0.000												
SVE-12	1005	0.000	SVE-6	1006	-0.005												
SVE-13	1015	0.000	SVE-13	1015	0.000												
SVE-1	1632	+0.02	SVE-1	1631	+0.025												
SVE-1	1715	+0.013	SVE-1	1717	+0.04												
SVE-1	1004	-0.005	SVE-1	1003	+0.005												

1745 Open SVE-7 & SVE-15 to previous settings
 SVE-3 Flow diff. betw 1" & 1.4" opte
 L 11% & 1" Oplate
 288 & 29.16 CFM
 Tetra Tech

