

**APRIL 2019 SURFACE WATER TECHNICAL  
MEMORANDUM FOR DARK HEAD COVE AND  
COW PEN CREEK  
LOCKHEED MARTIN CORPORATION,  
MIDDLE RIVER COMPLEX  
2323 EASTERN BOULEVARD, MIDDLE RIVER, MD**

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Lockheed Martin Corporation

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## ACRONYMS AND ABBREVIATIONS

|             |   |
|-------------|---|
| AECOM       | AECOM Technical Services, Inc.                |
| BGE         | Baltimore Gas and Electric                    |
| BTAG        | (USEPA) Biological Technical Advisory Group   |
| cis-1,2-DCE | cis-1,2-dichloroethene                        |
| COC         | chain of custody                              |
| COMAR       | Code of Maryland Regulations                  |
| DO          | dissolved oxygen                              |
| g/d/feet    | gallon(s) per day per foot                    |
| GIS         | geographic information system                 |
| gpm         | gallon(s) per minute                          |
| HASP        | health and safety plan                        |
| MDE         | Maryland Department of the Environment        |
| µg/L        | microgram(s) per liter                        |
| MRC         | Middle River Complex                          |
| ORP         | oxygen reduction potential                    |
| PCB(s)      | polychlorinated biphenyl(s)                   |
| PE          | performance evaluation                        |
| TCE         | trichloroethene                               |
| USEPA       | United States Environmental Protection Agency |
| VOC(s)      | volatile organic compound(s)                  |



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## EXECUTIVE SUMMARY

On behalf of Lockheed Martin Corporation, AECOM Technical Services, Inc., has prepared this technical memorandum documenting the April 2019 surface water monitoring at the Lockheed Martin Middle River Complex in Middle River, Maryland. This technical memorandum is part of the long-term groundwater and surface water monitoring program at the Middle River Complex. The objectives of the surface water monitoring program are to update surface water analytical data, understand the nature and extent of contamination, evaluate contaminant trends to supplement ongoing remediation efforts, and assess off-site contaminant migration. Investigative activities conducted from 2018 to 2020 as part of this surface water monitoring program include three annual rounds of sampling and chemical analyses of surface water in Dark Head Cove and Cow Pen Creek in April, June, and September of each year.

This technical memorandum evaluates the April 2019 surface water sampling analytical data based on current and historical results and estimates of potential groundwater to surface water discharge. On-site personnel collected 22 surface water samples (including one duplicate) from 21 sampling locations in Cow Pen Creek and Dark Head Cove on April 24-25, 2019, on behalf of Lockheed Martin Corporation. Surface water samples were collected and sent to ALS Environmental in Middletown, Pennsylvania, to be chemically analyzed for volatile organic compounds and 1,4-dioxane. Polychlorinated biphenyls were analyzed by ALS Environmental in Rochester, New York. The analytical results were compared to Maryland ambient water quality criteria for human health consumption of organisms (*Code of Maryland Regulations* 26.08.02.03), United States Environmental Protection Agency Region III Biological Technical Advisory Group freshwater screening-levels (United States Environmental Protection Agency, 2006), and site-specific risk-based screening levels for swimming (Lockheed Martin Corporation, 2019).

In addition, two laboratory blind performance evaluation samples were prepared by adding certified concentrations of polychlorinated biphenyl homologs to one liter of laboratory provided deionized water each for quality assurance/quality control purposes. One performance evaluation sample went to Alpha Analytical in Westborough, Massachusetts, and one went to ALS Environmental in Rochester, New York. The laboratory blind performance evaluation sample for

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ALS Environmental displayed percent recoveries greater than the upper quality control limit of 150% for dichlorobiphenyls (162%), monochlorobiphenyls (171%), and tetrachlorobiphenyls (170%). The positive associated field sample results were qualified J+ (reported value may not be accurate or precise, but the result may be biased high). These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a positive bias.

Findings from the April 2019 surface water sampling are as follows:

- trichloroethene—detected at three locations in Dark Head Cove below screening levels
- *cis*-1,2-dichloroethene—detected at two locations in Dark Head Cove below screening levels
- 1,4-dioxane—detected at five locations in Dark Head Cove and three locations in Cow Pen Creek below screening levels
- polychlorinated biphenyls—detected at 18 locations in Dark Head Cove above the Maryland ambient water quality criteria for human health consumption of organisms.

Polychlorinated biphenyl concentrations range from 0.003 µg/L in sample MRC-SW18A-S to 0.0082 µg/L in sample MRC-SW13A-S, both collected in Dark Head Cove. Although the concentrations detected are low, all 18 samples collected exceed the human health screening level of 0.00064 µg/L set in place by Code of Maryland Regulations for total polychlorinated biphenyls based on consumption of organisms. A fish consumption advisory is currently in effect for Middle River (Maryland Department of the Environment, 2018), recommending consumption of no more than six meals of blue crab per month, due to polychlorinated biphenyl contamination in the area. Since high turbidity was not measured in the 2019 sampling event, polychlorinated biphenyl analytical detections were not associated with high turbidity, and therefore represent dissolved constituents in surface water.



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# SECTION 1 INTRODUCTION

On behalf of Lockheed Martin Corporation, AECOM Technical Services, Inc., has prepared the following technical memorandum for the April 2019 surface water monitoring at the Middle River Complex in Middle River, Maryland (see Figure 1). This technical memorandum details the analytical results from 21 surface water samples and one duplicate sample collected from Dark Head Cove and Cow Pen Creek. Site contaminants at the Middle River Complex could potentially be introduced to surface water through groundwater discharge or through groundwater infiltration into storm drains, thereby discharging into surface water through nearby outfalls.

Before 2017, surface water had been sampled annually by Tetra Tech, Inc. In 2017, the sampling frequency increased to three times per year (April, June, and September) to assess whether volatile organic compounds were reaching Dark Head Cove and Cow Pen Creek during implementation of the groundwater remedy at concentrations exceeding site-specific risk-based swimming screening levels. Additional sampling sought to determine if polychlorinated biphenyls were in surface water after the sediment removal actions that Lockheed Martin Corporation performed in Dark Head Cove near Outfall 005 starting in 2015 and completed in 2016 and followed by a second removal of sediment with lower concentrations from 2016 to 2017 to determine if the Block G 1,4-dioxane groundwater plume is potentially discharging to Cow Pen Creek.

Surface water samples collected in Dark Head Cove in 2017 were not analyzed for 1,4-dioxane, as it was not a chemical of concern in groundwater in the southeastern portion of the Middle River Complex. Selected surface water samples collected in 2019 are analyzed for 1,4-dioxane because it had been detected in the 2017 groundwater samples in the eastern Blocks E and F plume, and site-specific swimming screening levels had since been revised lower. Similarly, polychlorinated biphenyls are not chemicals of concern in groundwater that discharges to Cow Pen Creek and therefore were not analyzed for in surface water samples.

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This technical memorandum is organized as follows:

Section 1—Introduction: presents objectives for the surface-water monitoring program.

Section 2—Site Background: briefly describes the site history and surface water sampling history.

Section 3—Investigation Approach and Methodology: presents the technical approach to surface water sampling and describes the field methodology employed.

Section 4—Analytical Results: discusses the analytical results for each analyte.

Section 5—Summary: summarizes findings and conclusions.

Section 6—References: cites references used to compile this technical memorandum.

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## **SECTION 2 SITE BACKGROUND**

### **2.1 MIDDLE RIVER COMPLEX BACKGROUND**

The Middle River Complex is part of the Chesapeake Industrial Park at 2323 Eastern Boulevard in Middle River, Maryland, approximately 11.5 miles northeast of downtown Baltimore. It is composed of approximately 161 acres, including 12 main buildings, an active industrial area and yard, perimeter parking lots, an athletic field, a vacant concrete lot, a trailer and parts storage lot, and numerous grassy spaces along its perimeter. It is bounded by Eastern Boulevard (Route 150) to the north, Martin State Airport to the east, Dark Head Cove to the south, and Cow Pen Creek to the west. Figure 2 shows the Middle River Complex site layout.

LMC Properties, Inc., owns the Middle River Complex. Its primary activities at the Middle River Complex include facility and building management and maintenance. The main site tenant, MRA Systems, LLC, who's ownership transferred to Vision Technologies Aerospace Incorporated (U.S. subsidiary of Singapore Technologies Engineering Ltd.) in April 2019 during this sampling event, designs, manufactures, fabricates, tests, overhauls, repairs, and maintains aeronautical structures, parts, and components for military and commercial applications. Lockheed Martin Rotary and Mission Systems (a division of Lockheed Martin Corporation) conducts engineering activities and fabricates, assembles, tests, and otherwise supports vertical-launch systems.

#### **2.1.1 Middle River Complex History**

In 1929, the Glenn L. Martin Company (a predecessor entity of Lockheed Martin Corporation) acquired large parcels of undeveloped land in Middle River, Maryland, on which to manufacture aircraft for the United States government and commercial clients. In the early 1960s, Glenn L. Martin Company merged with American-Marietta Company to form Martin Marietta Corporation. Around 1975, the adjacent eastern airport area (currently Martin State Airport), approximately 750 acres, was transferred to the state of Maryland. In the mid-1990s, Martin Marietta Corporation merged with Lockheed Corporation to form Lockheed Martin Corporation. Shortly after the

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merger, General Electric Company entities acquired most of Lockheed Martin Corporation's aeronautical business in Middle River and the General Electric subsidiary, MRA Systems, Inc., began operations at the site. MRA Systems, Inc., was sold to Vision Technologies Aerospace Incorporated (United States subsidiary of Singapore Technologies Engineering Ltd.) in April 2019.

## **2.1.2 Middle River Complex Characteristics**

### **2.1.2.1 Physiography**

The Middle River Complex is in the Western Shore of the Coastal Plain physiographic province, which is generally characterized by low relief. The Middle River Complex's topography slopes gently, ranging from sea level to 32 feet above mean sea level (Cassell, 1977). The topography declines from Eastern Boulevard to the southwest and south toward Cow Pen Creek and Dark Head Cove.

### **2.1.2.2 Hydrology**

The Middle River Complex is at the junction of Cow Pen Creek and Dark Head Cove. Both surface water bodies discharge into Dark Head Creek, a tributary of Middle River, which is a tributary of Chesapeake Bay. The Middle River Complex is approximately 3.24 miles (17,100 feet) upstream of Chesapeake Bay. The Middle River Complex has no surface water bodies on site.

Surface-water runoff discharges from the facility via storm drains, except for areas immediately adjacent to Cow Pen Creek and Dark Head Cove.

### **2.1.2.3 Regional Hydrogeology**

Sand and gravel zones in the unconsolidated surficial deposits at the Middle River Complex, when present, might form an unconfined or water table aquifer system (Bennett and Meyer, 1952). The water table at the Middle River Complex generally conforms to the land surface, with the highest water levels in interior land areas and the lowest levels at approximately surface water elevations along the shoreline.

Regionally, the Patuxent Formation is the most important water-bearing formation in the Baltimore area. Industrial wells in the southeastern part of the area, specifically Curtis Bay and Sparrows Point, yield 500–900 gallons per minute (gpm). In these industrialized areas, the transmissivity

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and storage coefficient in confined portions of the aquifer average about 50,000 gallons per day per foot (g/d/feet) and 0.00026, respectively.

The Patapsco Formation is also an important water-bearing formation in industrialized Baltimore, where it is separated by clay into a lower and an upper aquifer. Industrial wells screened in the lower aquifer yield as much as 500–750 gpm, with an estimated transmissivity of 25,000 g/d/feet (Bennett and Meyer, 1952). The upper aquifer yields quantities of water similar to industrial wells, but likely has a higher overall transmissivity, because it is thicker than the lower aquifer.

## **2.2 SURFACE WATER**

Dark Head Cove and Cow Pen Creek receive groundwater discharge from the Middle River Complex either directly or through outfalls. Chemicals of concern found in Middle River Complex groundwater (e.g., trichloroethene and 1,4-dioxane) have historically been detected both in creek and cove samples. Sampling of surface water and sediment adjacent to the Middle River Complex's southern and western property boundaries began in March 2005 (Tetra Tech Inc., 2005).

Tetra Tech Inc. conducted subsequent sampling in 2005 and in each year from 2010–2017 to characterize surface water and sediment, conduct a human health and ecological risk assessment, aid in subsequent design of the sediment remedy, and to support storm-drain investigations (Tetra Tech Inc., 2017b). The current annual sampling program seeks to determine the extent to which chemicals in groundwater and soil at the Middle River Complex have been transported to surface water, and if constituents in sediments might be affecting surface water. The sampling program (occurring in April, June, and September) is also designed to provide analytical data during times of greatest recreational use of these surface water bodies.



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## **SECTION 3 INVESTIGATION APPROACH AND METHODOLOGY**

The overall objective in characterizing site surface water is to provide updated surface water quality data. Surface water analytical data from Cow Pen Creek and Dark Head Cove are used to assess the nature and extent of contamination, including potential contaminant transport from the Middle River Complex (MRC) into surface water. Before beginning fieldwork, appropriate personnel from AECOM Technical Services, Inc. (AECOM) reviewed the site-specific health and safety plan (HASP) and the respective “Safe Work” permits and emergency response plan included in the HASP.

AECOM conducted mandatory health and safety tailgate meetings before each day’s fieldwork and twilight debrief meetings at the end of each day. The AECOM site health and safety officer documented the topics covered and personnel in attendance. Safety requirements are addressed in detail in the site-specific AECOM HASP, included in the *2018–2020 Groundwater and Surface Water Monitoring Work Plan* and its associated addenda (AECOM, 2017, 2018a, 2018b, 2019).

### **3.1 SURFACE WATER SAMPLING**

The April 2019 surface water sampling described herein provides additional and updated surface water quality data for Dark Head Cove and Cow Pen Creek. Specifically, current goals are to determine whether volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and/or 1,4-dioxane previously detected in groundwater and soil are reaching Dark Head Cove and Cow Pen Creek via groundwater seepage, infiltration, or transport through nearby storm drains at concentrations greater than the established site-specific risk-based swimming screening levels. Concentrations of VOCs, PCBs, and 1,4-dioxane in surface water were determined through laboratory analyses of the collected samples.

All samples in Dark Head Cove and Cow Pen Creek were collected with dedicated, disposable tubing, attached to a depth transducer that was part of the YSI water quality meter, which measures

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the water quality parameters outlined in Section 4.4. The meter was lowered to one foot below the water surface and marked by electrical tape on the cord at the one foot mark. The appropriate length of tubing was cut (to ensure collection from one foot below the water surface) and samples were collected via a peristaltic pump set at a purge rate of approximately 500 milliliters per minute. All samples collected are designated with an “S” in the sample ID, indicating surface water collection from one foot below the water surface.

*Dark Head Cove*—Eighteen surface water samples were collected in Dark Head Cove at and near Outfalls 005E, 005W, 006, 007, 008, and 009, which discharge to the cove (Figure 3). Two samples were collected at Outfalls 006, 007, 008, and 009: one sample from 10 feet offshore (“A” sample) and a second sample from 50 feet offshore (“B” sample) at each of the above listed outfall locations. Three sampling locations west of Outfall 008 (MRC-SW13A-S, MRC-SW15A-S, and MRC-SW16A-S) have no associated “B” sample. These surface water samples were collected 10 feet offshore. Four additional samples were taken during this sampling event as compared to the 2018 April surface water sampling program west of Outfall 008 (MRC-SW11A-S, MRC-SW11B-S, MRC-SW12A-S, and MRC-SW18A-S). Two outlets are at Outfalls 005: 005E and 005W. One sample was collected at each outlet, 10 feet offshore, recorded as the 5A1-S and 5A2-S samples. A single sample was collected 50 feet offshore, perpendicular to the bulkhead and halfway between the outlets, and was recorded as the “B” sample.

*Cow Pen Creek*—Two samples (MRC-SW1A and MRC-SW2A) were collected along the centerline of Cow Pen Creek downgradient of Outfall 004, with one sample collected upstream of the Block G swale outfall and one sample collected downstream of the Block G swale outfall. A third sample (MRC-SW17A) was collected near Outfall 003 and represents the farthest upgradient sample that can be collected within the site boundaries. MRC-SW17A was collected immediately downstream of the Baltimore Gas and Electric (BGE) property boundary. BGE owns this section of the creek and does not allow creek samples to be collected by Lockheed Martin on BGE property. Table 1 summarizes the analytical constituents included in the 2019 monitoring program.

### **3.1.1 Chemical Analyses**

Surface water samples were analyzed at ALS Environmental (in Middletown, Pennsylvania) for chemical analysis of VOCs and 1,4-dioxane. PCBs were analyzed by ALS Environmental in



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Rochester, New York. All samples were analyzed for VOCs, Cow Pen Creek samples and select Dark Head Cove samples were analyzed for 1,4-dioxane, and all Dark Head Cove surface water samples were analyzed for PCB homologs.

One duplicate, one matrix spike, and one matrix spike duplicate sample for each parameter (VOCs, 1,4-dioxane, and PCB homologs) were collected during the April 2019 surface-water sampling. One trip-blank sample per sampling event (i.e., one per cooler) was also collected for VOC analysis, one field blank was collected off the side of the sampling vessel in Dark Head Cove for VOC, 1,4-dioxane, and PCB analyses, and two performance evaluation (PE) samples were prepared for PCB homologs for quality assurance/quality control purposes. PE samples are prepared by “spiking” a known concentration of PCB homologs (monochlorobiphenyl, dichlorobiphenyl, trichlorobiphenyl, and tetrachlorobiphenyl) into laboratory provided analyte-free DI water and bottleware. PE samples were submitted as double-blind and as part of the field sample shipment, so that the laboratories are unaware of concentration levels, and unaware that the sample is a PE. The laboratory’s analysis of PE samples is used to evaluate their ability to produce accurate results.

Water quality parameters, including color, temperature, pH, specific conductance, hardness, salinity, turbidity, dissolved oxygen, and oxidation reduction potential, were measured at all surface water sampling locations at the time of sampling.

### **3.1.2 Staff Gauges and Tidal Stages**

Tidal stage at the time of sample collection was recorded from one staff gauge shown on Figure 3. The staff gauge (MRC-STAFF01) is in Dark Head Cove near Outfall 009. Tidal stages were recorded on April 24<sup>th</sup> and 25<sup>th</sup>, 2019, before and after sampling. When sampling began in Dark Head Cove on April 24<sup>th</sup>, MRC-STAFF01 read 1.28 feet at approximately 1007 hours. By the completion of the Dark Head Cove sampling, the staff gauge read 0.38 feet at approximately 1800 hours. Tidal information from the Bowley Bar Point station, southeast of Middle River, Maryland, reported low tide at 0436 hours on April 24<sup>h</sup>, 2019.

When sampling began in the next day on April 25<sup>th</sup>, MRC-STAFF01 read 0.3 feet at approximately 0809 hours. By the completion of sampling, the staff gauge read 1.3 feet at approximately 1119 hours. One sample, MRC-SW17A, was collected from Cow Pen Creek on April 25<sup>th</sup>, 2019 at 1215

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hours. Tidal information from the Bowley Bar Point station, reported low tide at 0529 hours on April 25<sup>th</sup>, 2019. All tidal information is documented on the surface water sampling forms, in Appendix A.

### **3.2 MOBILE DATA COLLECTION DOCUMENTATION**

All site activities and observations, including an overall record of field activities, were recorded on electronic field log sheets and submitted in daily field reports to the Lockheed Martin Remediation Technical Operations and Lockheed Martin Corporation. Completed chains-of-custody (COC) and matrix specific sampling log sheets were maintained. Completed COC forms are found in the *Data-Validation Report* in Appendix B. AECOM used two of Esri's mobile applications, *Survey123* and *Collector for ArcGIS*<sup>®</sup>, during surface water data collection. They feature map and business logic that enhance a technician's ability to locate and record accurate data. All electronic data collection is designed to be consistent with the forms in Appendix A.

Once in the field, if the technician required location services, needed to reference a base map, or needed to add or edit a location, *Collector for ArcGIS*<sup>®</sup> was used. The technician was also able to review historical information about the location, make edits, and take photos with the application, as required. New records were created within *Survey123*, leveraging form-based business logic, including related reference tables, and if/then-style follow-up fields.

Upon sampling completion, the technician submitted the record from their mobile device, where it was synchronized with AECOM's *Portal for ArcGIS*<sup>®</sup>. The team could access data immediately once it had synchronized. Data were downloaded from *Portal for ArcGIS*<sup>®</sup> and were available to be used in any other geographic information system (GIS) or database management system. Surface water sampling locations were also surveyed using a handheld global positioning system receiver in the Maryland State Plane North American Datum 1983.

### **3.3 EQUIPMENT DECONTAMINATION**

No decontamination fluids other than distilled water were used for the surface water sampling. Distilled water rinse was discharged directly into Dark Head Cove or Cow Pen Creek. Therefore, collecting and disposing of rinse water generated during this sampling event was unnecessary.

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### 3.4 WASTE MANAGEMENT

No investigation-derived waste was generated during this surface water sampling. General waste, such as gloves and tubing, was disposed of as general refuse.

### 3.5 DATA REVIEW

Laboratory data were entered into an internal sample database and evaluated against site-specific risk-based swimming-screening levels and applicable regulatory criteria. AECOM performed a manual data review and data validation using the *EQuIS™ Automated Validated Assistant* tool. This included completing a limited data review (evaluating data completeness, holding times, laboratory and field blank contamination, laboratory batch quality control, field duplicate precision, and detection limits) concurrent with the data evaluation. The review is based on the United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA-540-R-2017-002, January 2017a) and USEPA *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA 540-R-2017-001, January 2017b) for an Organic/Inorganic Level I data review. Data were reviewed based on the specifics of the analytical method used. The data-qualifying flags applied to the surface water chemical results during data validation are identified in the *Data-Validation Report* in Appendix B. The analytical laboratory reports can be found in Appendix C. AECOM has uploaded new surface water sampling locations and validated data into the Lockheed Martin EESH-GIS database.



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## SECTION 4 ANALYTICAL RESULTS

Validated analytical data from the April 2019 surface water sampling were evaluated with respect to appropriate ecological and human health screening level criteria, including:

- Maryland ambient water quality criteria for human health consumption-of-organisms (*Code of Maryland Regulations* [COMAR] 26.08.02.03)
- United States Environmental Protection Agency (USEPA) Region III Biological Technical Advisory Group (BTAG) freshwater screening levels (USEPA, 2006)
- Risk-based site-specific swimming screening levels developed in 2019 for trichloroethene (TCE), *cis*-1,2-dichloroethene (*cis*-1,2-DCE), 1,2,4-TCB, and 1,4-dioxane for Dark Head Cove and Cow Pen Creek at the Middle River Complex (MRC). These risk-based screening values were approved by the Maryland Department of the Environment (MDE) in 2019 (Lockheed Martin Corporation [Lockheed Martin], 2019).

Site contaminants in groundwater at the MRC could potentially be introduced to surface water through groundwater discharge or through groundwater infiltration into storm drains, thereby discharging to surface water through nearby outfalls. The objectives of additional sampling were to determine if polychlorinated biphenyls (PCBs) were in surface water after sediment removal actions and in place treatment that Lockheed Martin performed in Dark Head Cove between 2015 and 2017, and to determine if the Block G 1,4-dioxane groundwater plume is discharging into Cow Pen Creek.

The analytical data suggest that a method of transporting groundwater contaminants of concern to surface water exists (notably *cis*-1,2-DCE and TCE at MRC-SW12A-S), via either of the two pathways described above. Table 2 outlines the detected analytes from each sampling location and compares that to the screening levels established by each of the above entities. To improve readability throughout Section 4, the leading “MRC” prefix before each sample name has been dropped, i.e., MRC-SW17A will henceforth be referred to as SW17A.

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## 4.1 VOLATILE ORGANIC COMPOUNDS

Table 2 summarizes volatile organic compound (VOC) detections in 2019. The distribution of detections is shown in Figure 4. Five VOCs were detected in surface water: acetone, TCE, chloroform, bromomethane, and *cis*-1,2-DCE. Acetone was detected in 20 of the 21 surface water sampling locations, ranging from 5.1 B to 21.6 B micrograms per liter ( $\mu\text{g/L}$ ). Acetone is a common laboratory contaminant used in decontaminating equipment. Most acetone sample detections have an associated “B” flag that was added during data validation, indicating that the detections are possibly due to sample carryover from the laboratory and may be false-positives.

TCE, the primary VOC of concern associated with groundwater at MRC, was detected in three sampling locations in Dark Head Cove (SW11A-S, SW12A-S, and SW18A-S) ranging from 0.86 J+ to 4.2  $\mu\text{g/L}$ . *cis*-1,2-DCE, a breakdown product of TCE, was detected in two surface water samples in Dark Head Cove (SW11A-S and SW12A-S) at concentrations of 0.33 J and 1.1  $\mu\text{g/L}$ , respectively. These sampling locations are at the very southwest corner of the presumed discharge area of the Block F southeastern TCE groundwater plume. All other samples collected at the presumed discharge plume footprint were non-detect for TCE and *cis*-1,2-DCE.

As shown in Table 2, the detected VOC concentrations are well below their various respective screening criteria. The highest TCE concentration in 2018 was 1.6  $\mu\text{g/L}$  at sampling location SW13A-S during the April event, compared to the highest TCE concentration of 4.2  $\mu\text{g/L}$  from the most recent sampling in April 2019 at SW12A-S. Surface water sample location SW13A-S is downgradient of Outfall 008 and on the southwestern tip of the southeastern TCE plume within Dark Head Cove. The groundwater/surface water relationship is dynamic in nature, influenced by tidal-zone mixing and mechanisms of the groundwater/surface water discharge/recharge relationship, creating an uneven distribution of contaminants within Dark Head Cove and Cow Pen Creek, which is being further evaluated as part of the Block F remedial design.

USEPA and MDE have not established acute or chronic freshwater criteria for TCE; however, both entities have established a human health consumption-of-aquatic-organism criterion of 300  $\mu\text{g/L}$  for TCE when adjusted for the MDE risk level of  $1 \times 10^{-05}$  (i.e., a one in 100,000 risk). The BTAG ecological screening level for TCE is 21  $\mu\text{g/L}$ . The maximum TCE concentration (4.2  $\mu\text{g/L}$ ) detected in this investigation is five times below the most conservative regulatory

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screening level of 21 µg/L, and more than seven times below the MDE-approved risk-based swimming screening level of 30 µg/L for evaluating exposure risks to swimmers (Table 2).

## 4.2 1,4-DIOXANE

As shown in Table 2 and on Figure 4, 1,4-dioxane was detected at seven of the seven sample locations it was analyzed for in concentrations ranging from 0.024 J to 0.064 J µg/L. During data validation of the laboratory results, all seven sample analytes were assigned a “J” as a final qualifier, indicating that this value is an estimated concentration greater than the method detection limit and less than the reporting limit. This concentration is negligible compared to the USEPA ecological screening level of 22,000 µg/L. This concentration is also below the MDE-approved risk-based swimming screening level of 20 µg/L. In April 2018, only one sample result from SW8B-S, detected 1,4-dioxane at a concentration of 0.049 J µg/L.

## 4.3 POLYCHLORINATED BIPHENYLS

PCBs, specifically only the total dichlorobiphenyl homolog group, were detected in all 18 surface water samples collected in Dark Head Cove in April 2019. Concentrations range from 0.003 J- µg/L at SW18A-S to 0.0082 J+ µg/L at SW13A-S. In 2015-2016, dredging in Dark Head Cove removed sediment impacted with high concentrations of PCBs around Outfall 005, and the remaining cove sediment dredging was completed in March 2017 (Tetra Tech, 2018).

Surface water location SW7A-S, which had the highest PCB concentration (0.0066 J µg/L) during the April 2018 sampling, had a concentration of 0.0054 J+ µg/L during the April 2019 sampling. Tetrachlorobiphenyl, the only PCB homolog detected in 2017 Dark Head Cove surface water samples, was detected in only one sample (SW5A2-S) at a concentration of 0.014 µg/L in September 2017. Results from the April 2019 sampling were non-detect for tetrachlorobiphenyl.

Sediment with the highest concentrations of PCBs was removed from Dark Head Cove near Outfall 005 during the sediment-removal action in 2014–2015, followed by a second removal of sediment with lower concentrations in the cove in 2016-2017. Sediment with the lowest concentrations is undergoing remediation via *in situ* application of a carbon amendment that binds the PCBs, decreasing their bioavailability, and thereby removing them from the food chain (Tetra Tech, 2017b).

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All 18 surface water samples collected exceed the human health consumption-of-organism's screening-level criterion of 0.00064 µg/L set in place by the COMAR for total PCBs. No screening level is associated solely with the dichlorobiphenyl homolog group. All total PCB concentrations reported from the April 2019 sampling event consist of the total dichlorobiphenyl homolog group. Since high turbidity was not measured in the 2019 sampling event, PCB analytical detections were not associated with high turbidity, and therefore represent surface water detections.

In addition, two laboratory blind performance evaluation samples were prepared by adding certified concentrations of PCB homologs to one liter each of laboratory provided deionized water for quality assurance/quality control purposes. One performance evaluation sample went to Alpha Analytical in Westborough, MA, and one went to ALS Environmental in Rochester, NY. The laboratory blind performance evaluation sample for ALS Environmental displayed percent recoveries greater than the upper quality control limit of 150% for dichlorobiphenyls (162%), monochlorobiphenyls (171%), and tetrachlorobiphenyls (170%). The positive associated field sample results were qualified J+ (reported value may not be accurate or precise, but the result may be biased high), unless previously qualified due to surrogate percent recovery anomalies. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a positive bias.

#### **4.4 WATER QUALITY PARAMETERS**

Water quality parameters were collected in the field for each of the 21 field samples and one duplicate sample collected during the April 2019 sampling. Water quality parameters, including color, temperature, pH, specific conductance, hardness, salinity, turbidity, dissolved oxygen (DO), and oxidation reduction potential (ORP), were measured at all surface water sampling locations at the time of sampling. All water quality parameter data are in Table 3. Associated parameters were measured at approximately one foot below the water surface, before sample collection.

All sampling locations have slightly basic pH values, ranging between 7.99 and 9.13 except for two samples (SW1A and SW2A) which exhibit pH values of 6.12 and 6.19 respectively. These values are consistent with natural surface water in this region. Turbidity was consistent in most samples, with the highest turbidity reported from SW2A within Cow Pen Creek at 2.7 nephelometric turbidity units.



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DO levels are on the higher side of typical values, ranging from 6.23 to 9.58 milligrams per liter, indicating a healthy estuarine environment. Additionally, all ORP values are positive, ranging from 161 to 252 millivolts, consistent with surface water containing oxygen.



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## SECTION 5 SUMMARY

AECOM Technical Services, Inc. (AECOM) collected 22 field samples from 21 locations throughout Cow Pen Creek and Dark Head Cove on April 24-25, 2019, on behalf of Lockheed Martin Corporation (Lockheed Martin). The samples were collected, sent to a laboratory, and chemically analyzed for volatile organic compounds (VOCs), 1,4-dioxane, and polychlorinated biphenyls (PCBs). These analyses were carried out to determine if these constituents are in surface water.

Trichloroethene (TCE) was detected in three samples (SW11A-S, SW12A-S, and SW18A-S) within Dark Head Cove and downgradient to the southeastern Blocks E/F trichloroethene plume, at concentrations ranging from 0.86 to 4.2 micrograms per liter ( $\mu\text{g/L}$ ). These TCE concentrations are below the United States Environmental Protection Agency (USEPA) screening level value of 21 micrograms per liter ( $\mu\text{g/L}$ ), well below the human health consumption-of-organism's level of 300  $\mu\text{g/L}$  per the *Code of Maryland Regulations* (COMAR), and well below the site-specific risk-based swimming screening level of 30  $\mu\text{g/L}$  (Lockheed Martin, 2019). The TCE detection in surface water is likely due to groundwater to surface water discharge of the nearby trichloroethene-impacted groundwater plume originating in Block E.

1,4-Dioxane was detected in seven of the seven sample locations it was analyzed for in concentrations ranging from 0.024 to 0.064  $\mu\text{g/L}$ . This concentration is significantly less than the associated USEPA ecological screening level of 22,000  $\mu\text{g/L}$ , and below the site-specific screening criterion for swimming of 20  $\mu\text{g/L}$ . The detections of 1,4-dioxane in Dark Head Cove is likely due to groundwater discharge into Dark Head Cove from the southeastern groundwater TCE plume emanating from Block E. The detections of 1,4-dioxane in Cow Pen Creek is likely due to groundwater discharge into Cow Pen Creek from the southwestern groundwater 1,4-dioxane plume emanating from Block G.

PCB homologs, specifically total dichlorobiphenyls, were detected in all 18 surface water samples that were analyzed for these constituents. Concentrations range from 0.003  $\mu\text{g/L}$  in sample

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SW18A-S to 0.0082 µg/L in sample SW13A-S, both collected in Dark Head Cove. Although the concentrations detected are low, all 18 samples collected exceed the human health screening level of 0.00064 µg/L set in place by COMAR for total PCBs based on consumption of organisms. A fish consumption advisory is currently in effect for Middle River, recommending consumption of no more than six meals of blue crab per month (Maryland Department of the Environment, 2018), due to polychlorinated biphenyl contamination in the area. Since high turbidity was not measured in the 2019 sampling event, PCB analytical detections were not associated with high turbidity, and therefore represent dissolved constituents in surface water.

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## SECTION 6 REFERENCES

- AECOM Technical Services, Inc. (AECOM), 2017. *2018-2020 Groundwater and Surface Water Monitoring Work Plan, Lockheed Martin Corporation, Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Prepared by AECOM Technical Services, Inc., Germantown, Maryland, for Lockheed Martin Corporation, Bethesda, Maryland. December.
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\_\_\_\_\_, 2018. *Construction Completion Report: Season One Sediment Remedy for Dark Head Cove, Lockheed Martin Middle River Complex, 2323 Eastern Boulevard, Middle River, Maryland*. Report prepared by Tetra Tech, Inc., Germantown, Maryland for Lockheed Martin Corporation, Bethesda, Maryland. Revision 2, August.

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\_\_\_\_\_, 2017a. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA-540-R-2017-002. January. <https://www.epa.gov/clp/national-functional-guidelines-organic-superfund-methods-data-review-som024>

\_\_\_\_\_, 2017b. *National Functional Guidelines for Inorganic Superfund Methods Data Review*. EPA-540-R-2017-001. 2017. <https://www.epa.gov/clp/national-functional-guidelines-inorganic-superfund-methods-data-review-ism024>

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## **FIGURES**

**Figure 1 Middle River Complex Location Map**

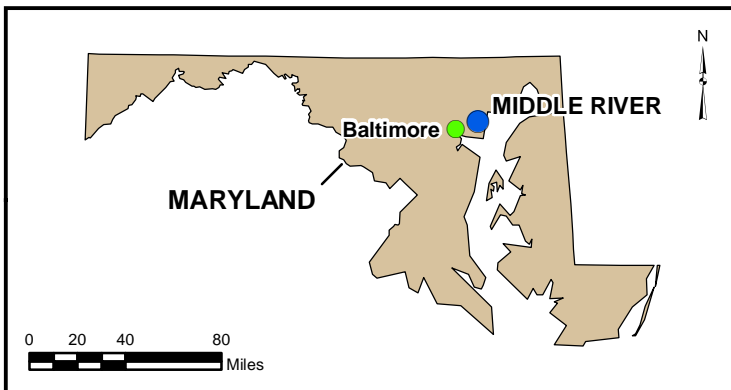
**Figure 2 Site Layout and Tax Blocks**

**Figure 3 2019 Surface Water Sampling Locations**

**Figure 4 2019 April Surface Water Detections**







**FIGURE 1**

**MIDDLE RIVER COMPLEX  
LOCATION MAP**

*Lockheed Martin Middle River Complex  
Middle River, Maryland*

DATE MODIFIED:

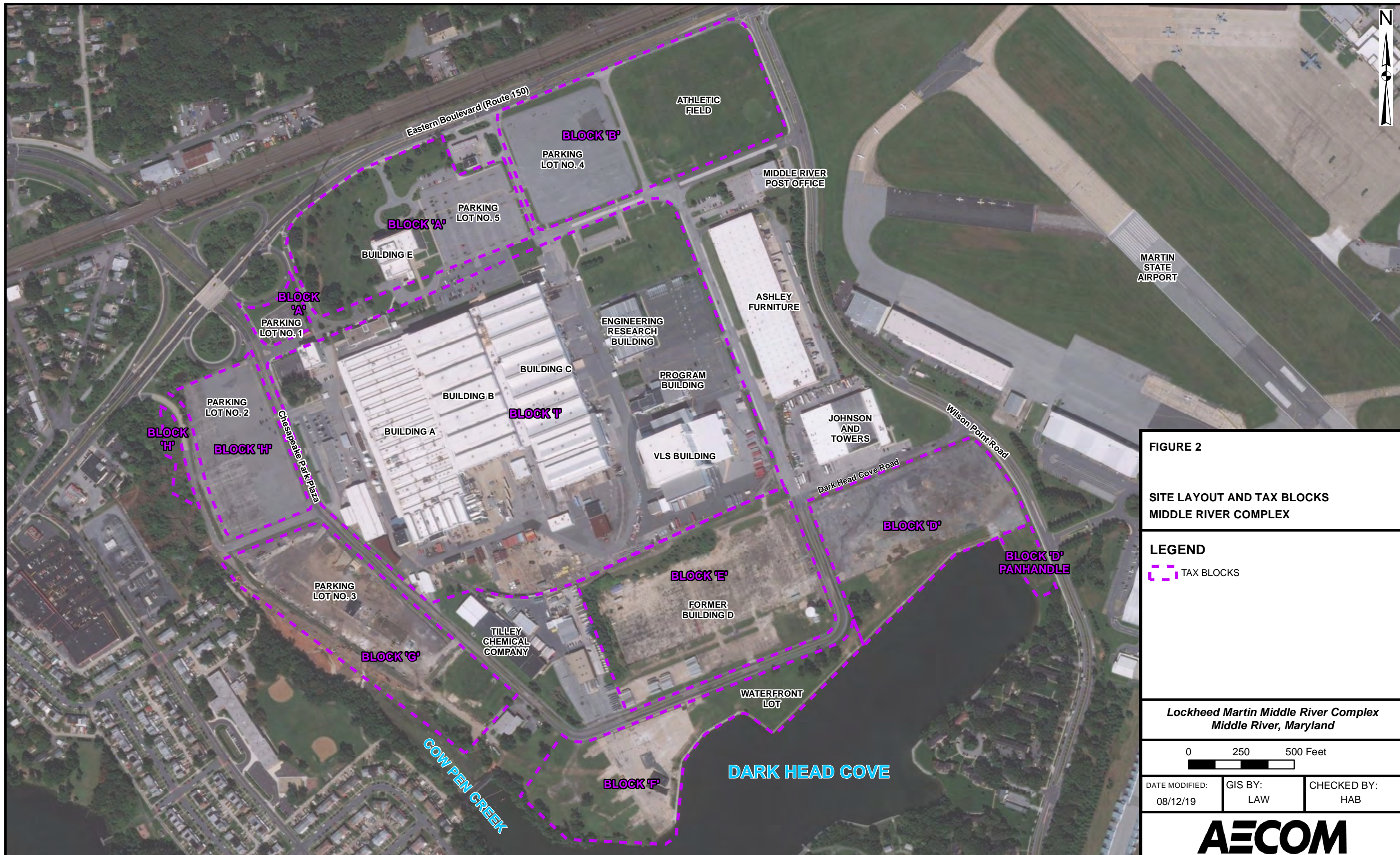
01/15/19

CREATED BY:

JEE

**AECOM**






**FIGURE 2**

**SITE LAYOUT AND TAX BLOCKS  
MIDDLE RIVER COMPLEX**

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**LEGEND**

 TAX BLOCKS

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**Lockheed Martin Middle River Complex  
Middle River, Maryland**

0 250 500 Feet

DATE MODIFIED: 08/12/19    GIS BY: LAW    CHECKED BY: HAB

**AECOM**



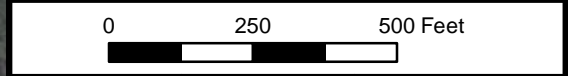


**FIGURE 3**  
**2019 SURFACE WATER SAMPLING LOCATIONS**  
**COW PEN CREEK AND DARK HEAD COVE**

**LEGEND**

- SURFACE WATER SAMPLE LOCATION
- STORMWATER OUTFALL LOCATION
- ◆ STAFF GAUGE
- ▭ TAX BLOCKS

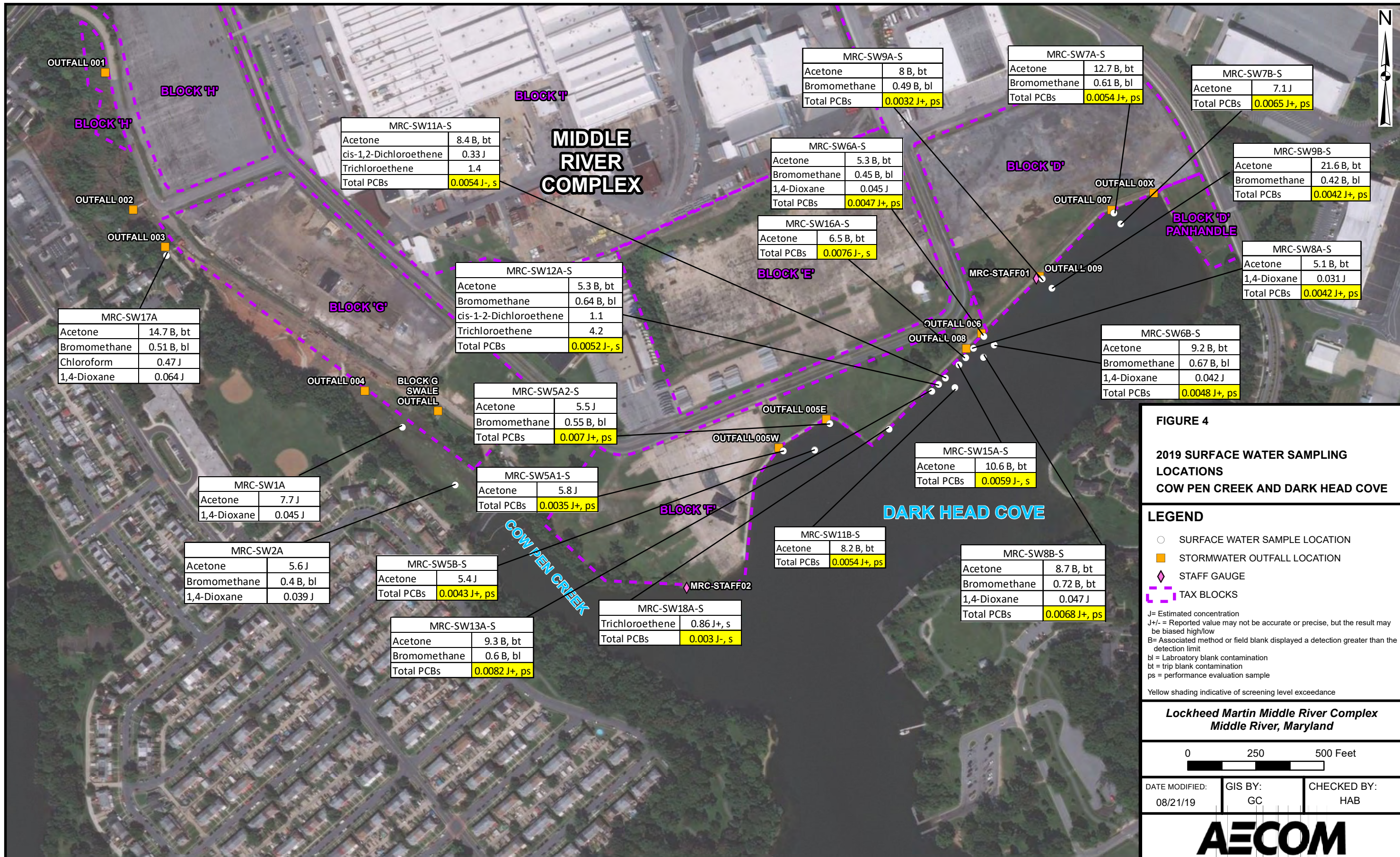
*Lockheed Martin Middle River Complex*  
*Middle River, Maryland*



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## **TABLES**

**Table 1 2019 Surface Water Sampling Locations and Chemical Analyses**

**Table 2 Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**

**Table 3 April 2019 Field Measurements for Surface Water Quality**



Table 1

2019 Surface Water Sampling Locations and Chemical Analyses  
 Lockheed Martin Middle River Complex, Middle River, Maryland  
 Page 1 of 1

| Sample location       | Sample number   | Distance from shore (in feet) | Samples per round | Analytical parameters (all samples)            |
|-----------------------|-----------------|-------------------------------|-------------------|--|
| <b>Dark Head Cove</b> |                 |                               |                   |  |
| Outfall 5*            | MRC-SW5A1-S     | 10                            | 1                 | VOCs, PCBs***<br>field parameters              |
|                       | MRC-SW5A2-S     | 10                            | 1                 |  |
|                       | MRC-SW5B-S      | 50                            | 1                 |  |
| Outfall 6             | MRC-SW6A-S      | 10                            | 1                 | VOCs, 1,4 Dioxane, PCBs***<br>field parameters |
|                       | MRC-SW6B-S      | 50                            | 1                 |  |
| Outfall 7             | MRC-SW7A-S      | 10                            | 1                 | VOCs, PCBs***<br>field parameters              |
|                       | MRC-SW7B-S      | 50                            | 1                 |  |
| Outfall 8             | MRC-SW8A-S      | 10                            | 1                 | VOCs, 1,4 Dioxane, PCBs***<br>field parameters |
|                       | MRC-SW8B-S      | 50                            | 1                 |  |
| Outfall 9             | MRC-SW9A-S      | 10                            | 1                 | VOCs, PCBs***<br>field parameters              |
|                       | MRC-SW9B-S      | 50                            | 1                 |  |
| Dark Head Cove        | MRC-SW18A-S**** | 10                            | 1                 | VOCs, PCBs***<br>field parameters              |
|                       | MRC-SW11A-S     | 10                            | 1                 |  |
|                       | MRC-SW11B-S     | 50                            | 1                 |  |
|                       | MRC-SW12A-S     | 10                            | 1                 |  |
|                       | MRC-SW13A-S     | 10                            | 1                 |  |
|                       | MRC-SW15A-S     | 10                            | 1                 |  |
|                       | MRC-SW16A-S     | 50                            | 1                 |  |
| <b>Cow Pen Creek</b>  |                 |                               |                   |  |
| Outfall 3             | MRC-SW17A       | downstream**                  | 1                 | VOCs, 1,4-dioxane<br>field parameters          |
| Near western plume    | MRC-SW1A        | upstream**                    | 1                 |  |
|                       | MRC-SW2A        | downstream**                  | 1                 |  |

**Notes:**

Samples are to be collected in April, June and September each year

\* Two near-shore samples (10-feet) will be collected only at Outfall 5; at the remaining outfalls, one near-shore (10-feet) sample will be collected.

\*\* Samples will be collected from the creek’s centerline, 10 feet upstream (northwest) and 10 feet downstream (southeast) from the estimated groundwater plume boundaries.

\*\*\* PCB samples will be collected only in the April round

\*\*\*\*MRC-SW18A-S is a new location to be sampled downgradient from Transformer Room #3 (well set MRC-MW128A/127A/129A/130A)

All samples are to be collected one foot below the water surface.

VOCs – volatile organic compounds by USEPA SW-846 Method 8260C

PCBs – polychlorinated biphenyl homologs by USEPA SW-846 Method 680

1,4-Dioxane by USEPA SW-848270D SIM

USEPA – United States Environmental Protection Agency

Field parameters include pH, temperature, specific conductance, dissolved oxygen (DO), hardness, turbidity, oxidation-reduction potential (ORP), and salinity using calibrated portable field instruments (Horiba U-10 or equivalent) at the time of sampling.

Hardness analyses will require use of a field test kit (Hach, Chemetrics, or equivalent).

Blanks and Quality Control/Assurance Samples

Field Blank - One per day, all analyses

Laboratory-Blind Bottle Blank - One per event, all analyses

Trip Blank - One per shipment to the laboratory, VOCs only

Rinsate Blank - One per day, all analyses

Batch Certified Sample Containers - One per bottleware lot (shipped from ALS Rochester), Homologs only

Field Duplicate Frequency - 10% frequency, all analyses

PCB Trip Blank/Lab-Blind Bottle Blank - 10% frequency, Homologs only

Laboratory Split Samples - Pace Analytical - 10% frequency, Homologs only

Location and analyses added to the 2019 sampling program



**Table 2**  
**Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
 Page 1 of 5

| Analyte (µg/L)                          | CAS Number | National Recommended Water Quality |         | Ecological Surface Water Screening Level (2) | Human Health Consumption (Organism Only) (1)(3) | Swimming Screening Levels (4) | MRC-SW5A1-S |    | MRC-SW5A2-S |        | MRC-SW5B-S |    | MRC-SW6A-S |    | MRC-SW6B-S |        |    |    |
|---|------------|------------------------------------|---------|--|---|-------------------------------|-------------|----|-------------|--------|------------|----|------------|----|------------|--------|----|----|
|   |            | Acute                              | Chronic |  |   |                               | Result      | FQ | RC          | Result | FQ         | RC | Result     | FQ | RC         | Result | FQ | RC |
| <b>VOLATILES (µg/L)</b>                 |            |                                    |         |  |   |                               |             |    |             |        |            |    |            |    |            |        |    |    |
| Acetone                                 | 67-64-1    | NE                                 | NE      | 1500   | NE  | NE                            | 5.8         | J  | 5.5         | J      | 5.4        | J  | 5.3        | B  | 9.2        | B      | bt |    |
| Bromomethane                            | 74-83-9    | NE                                 | NE      | NE   | 1500  | NE                            | ND          | U  | 0.55        | B      | bi         | U  | 0.45       | B  | bi         | 0.67   | B  | bi |
| Chloroform                              | 67-66-3    | NE                                 | NE      | 1.8  | 4700  | NE                            | ND          | U  | ND          | U      | ND         | U  | ND         | U  | ND         | U      | U  | U  |
| cis-1,2-Dichloroethene                  | 156-59-2   | NE                                 | NE      | 590  | NE  | 20                            | ND          | U  | ND          | U      | ND         | U  | ND         | U  | ND         | U      | U  | U  |
| Trichloroethene                         | 79-01-6    | NE                                 | NE      | 21   | 300   | 30                            | ND          | U  | ND          | U      | ND         | U  | ND         | U  | ND         | U      | U  | U  |
| <b>SEMI-VOLATILES (µg/L)</b>            |            |                                    |         |  |   |                               |             |    |             |        |            |    |            |    |            |        |    |    |
| 1,4-Dioxane                             | 123-91-1   | NE                                 | NE      | 22000  | NE  | 20                            | NS          |    | NS          |        | NS         |    | 0.045      | J  | 0.042      | J      |    |    |
| <b>POLYCHLORINATED BIPHENYLS (µg/L)</b> |            |                                    |         |  |   |                               |             |    |             |        |            |    |            |    |            |        |    |    |
| Total PCBs (6)                          | 1336-36-3  | NE                                 | 0.014   | NE   | 0.00064   | 5                             | 0.0035      | J+ | 0.007       | J+     | 0.0043     | J+ | 0.0047     | J+ | 0.0048     | J+     | ps | ps |

**Bold values indicate detections**

**Yellow shading indicates a results that exceeds a screening criterion**

**References**

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsg.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
- 2 United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003).
- 3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>-5</sup>
- 4 Risk-based swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, 1,4 dioxane, 1,2,4-trichlorobenzene and Total PCBs for Dark Head Cove.
- 5 The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the April 2019 event.

**Definitions**

- FQ - Final Qualifier
  - MRC - Middle River Complex
  - ND - not detected
  - NE - not established
  - NS - not sampled
  - RC - Reason Code
  - SW - surface water
  - µg/L - micrograms per liter
- Data Qualifiers and Reason Codes**
- J = Estimated concentration
  - J+/- = Reported value may not be accurate or precise, but the result may be biased high/low.
  - B = The associated method blank or field blank displayed a detection greater than the DL.
- The reported result value is unchanged and did not require further qualification by data reviewers.
- bl = Laboratory blank contamination
  - bt = Trip blank contamination
  - m = Matrix spike recovery
  - ps = Performance evaluation sample
  - s = Surrogate percent recovery anomaly

**Table 2**  
**Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
 Page 2 of 5

| Analyte (µg/L)                          | CAS Number | National Recommended Water Quality |         | Ecological Surface Water Screening Level (2) | Human Health Consumption (Organism Only) (1)(3) | Swimming Screening Levels (4) | MRC-SW7A-S |    | MRC-SW7B-S |        | MRC-SW8A-S |       | MRC-SW8A-S-DUP |       | MRC-SW8B-S |        |    |    |        |    |    |
|---|------------|------------------------------------|---------|--|---|-------------------------------|------------|----|------------|--------|------------|-------|----------------|-------|------------|--------|----|----|--------|----|----|
|   |            | Acute                              | Chronic |  |   |                               | Result     | FQ | RC         | Result | FQ         | RC    | Result         | FQ    | RC         | Result | FQ | RC | Result | FQ | RC |
| <b>VOLATILES (µg/L)</b>                 |            |                                    |         |  |   |                               |            |    |            |        |            |       |                |       |            |        |    |    |        |    |    |
| Acetone                                 | 67-64-1    | NE                                 | NE      | 1500   | NE  | NE                            | 12.7       | B  | bt         | 7.1    | J          | B     | bt             | ND    | U          | 8.7    | B  | bt |        |    |    |
| Bromomethane                            | 74-83-9    | NE                                 | NE      | NE   | 1500  | NE                            | 0.61       | B  | bt         | ND     | U          | ND    | U              | ND    | U          | 0.72   | B  | bt |        |    |    |
| Chloroform                              | 67-66-3    | NE                                 | NE      | 1.8  | 4700  | NE                            | ND         | U  | ND         | ND     | U          | ND    | U              | ND    | U          | ND     | U  | U  |        |    |    |
| cis-1,2-Dichloroethene                  | 156-59-2   | NE                                 | NE      | 590  | NE  | 20                            | ND         | U  | ND         | ND     | U          | ND    | U              | ND    | U          | ND     | U  | U  |        |    |    |
| Trichloroethene                         | 79-01-6    | NE                                 | NE      | 21   | 300   | 30                            | ND         | U  | ND         | ND     | U          | ND    | U              | ND    | U          | ND     | U  | U  |        |    |    |
| <b>SEMI-VOLATILES (µg/L)</b>            |            |                                    |         |  |   |                               |            |    |            |        |            |       |                |       |            |        |    |    |        |    |    |
| 1,4-Dioxane                             | 123-91-1   | NE                                 | NE      | 22000  | NE  | 20                            | NS         |    | NS         |        | NS         | 0.031 | J              | 0.024 | J          | 0.047  | J  |    |        |    |    |
| <b>POLYCHLORINATED BIPHENYLS (µg/L)</b> |            |                                    |         |  |   |                               |            |    |            |        |            |       |                |       |            |        |    |    |        |    |    |
| Total PCBs (6)                          | 1336-36-3  | NE                                 | 0.014   | NE   | 0.00064   | 5                             | 0.0054     | J+ | ps         | 0.0065 | J+         | ps    | 0.0042         | J+    | ps         | 0.0048 | J+ | ps | 0.0068 | J+ | ps |

**Bold values indicate detections**

**Yellow shading indicates a results that exceeds a screening criterion**

**References**

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
- 2 United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003).
- 3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$
- 4 Risk-based swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, 1,4 dioxane, 1,2,4-trichlorobenzene and Total PCBs for Dark Head Cove.
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- ps = Performance evaluation sample
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**Table 2**  
**Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
**Page 3 of 5**

| Analyte (µg/L)                          | CAS Number | National Recommended Water Quality |         | Ecological Surface Water Screening Level (2) | Human Health Consumption (Organism Only) (1)(3) | Swimming Screening Levels (4) | MRC-SW9A-S |    | MRC-SW9B-S |        | MRC-SW18A-S |      | MRC-SW11A-S |      | MRC-SW11B-S |        |    |     |        |    |    |
|---|------------|------------------------------------|---------|--|---|-------------------------------|------------|----|------------|--------|-------------|------|-------------|------|-------------|--------|----|-----|--------|----|----|
|   |            | Acute                              | Chronic |  |   |                               | Result     | FQ | RC         | Result | FQ          | RC   | Result      | FQ   | RC          | Result | FQ | RC  | Result | FQ | RC |
| <b>VOLATILES (µg/L)</b>                 |            |                                    |         |  |   |                               |            |    |            |        |             |      |             |      |             |        |    |     |        |    |    |
| Acetone                                 | 67-64-1    | NE                                 | NE      | 1500   | NE  | NE                            | 8          | B  | bt         | 21.6   | B           | bt   | ND          | U    | 8.4         | B      | bt | 8.2 | B      | bt |    |
| Bromomethane                            | 74-83-9    | NE                                 | NE      | NE   | 1500  | NE                            | 0.49       | B  | bl         | 0.42   | B           | bl   | ND          | U    | ND          | U      | ND | ND  | U      | U  |    |
| Chloroform                              | 67-66-3    | NE                                 | NE      | 1.8  | 4700  | NE                            | ND         | U  | ND         | ND     | U           | ND   | U           | ND   | U           | ND     | U  | ND  | U      | U  |    |
| cis-1,2-Dichloroethene                  | 156-59-2   | NE                                 | NE      | 590  | NE  | 20                            | ND         | U  | ND         | ND     | U           | ND   | U           | 0.33 | J           | ND     | U  | ND  | U      | U  |    |
| Trichloroethene                         | 79-01-6    | NE                                 | NE      | 21   | 300   | 30                            | ND         | U  | ND         | ND     | U           | 0.86 | J+          | s    | 1.4         | NS     | U  | ND  | U      | U  |    |
| <b>SEMI-VOLATILES (µg/L)</b>            |            |                                    |         |  |   |                               |            |    |            |        |             |      |             |      |             |        |    |     |        |    |    |
| 1,4-Dioxane                             | 123-91-1   | NE                                 | NE      | 22000  | NE  | 20                            | NS         |    | NS         |        | NS          |      | NS          |      | NS          |        | NS |     | NS     |    |    |
| <b>POLYCHLORINATED BIPHENYLS (µg/L)</b> |            |                                    |         |  |   |                               |            |    |            |        |             |      |             |      |             |        |    |     |        |    |    |
| Total PCBs (6)                          | 1336-36-3  | NE                                 | 0.014   | NE   | 0.00064   | 5                             | 0.0032     | J+ | ps         | 0.0042 | J+          | ps   | 0.003       | J-   | s           | 0.0054 | J- | s   | 0.0054 | J+ | ps |

**Bold values indicate detections**

**Yellow shading indicates a results that exceeds a screening criterion**

**References**

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
- 2 United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003).
- 3 For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$
- 4 Risk-based swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, 1,4 dioxane, 1,2,4-trichlorobenzene and Total PCBs for Dark Head Cove.
- 5 The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the April 2019 event.

**Definitions**

- FQ - Final Qualifier
  - MRC - Middle River Complex
  - ND - not detected
  - NE - not established
  - NS - not sampled
  - RC - Reason Code
  - SW - surface water
  - µg/L - micrograms per liter
- Data Qualifiers and Reason Codes**
- J = Estimated concentration
  - J+/- = Reported value may not be accurate or precise, but the result may be biased high/low.
  - B = The associated method blank or field blank displayed a detection greater than the DL.
- The reported result value is unchanged and did not require further qualification by data reviewers.
- bl = Laboratory blank contamination
  - bt = Trip blank contamination
  - m = Matrix spike recovery
  - ps = Performance evaluation sample
  - s = Surrogate percent recovery anomaly

**Table 2**  
**Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
**Page 4 of 5**

| Analyte (µg/L)                          | CAS Number | National Recommended Water Quality |         | Ecological Surface Water Screening Level (2) | Human Health Consumption (Organism Only) (1)(3) | Swimming Screening Levels (4) | MRC-SW12A-S  |        | MRC-SW13A-S |        | MRC-SW15A-S  |        | MRC-SW16A-S |    | MRC-SW17A    |        |    |    |              |        |    |
|---|------------|------------------------------------|---------|--|---|-------------------------------|--------------|--------|-------------|--------|--------------|--------|-------------|----|--------------|--------|----|----|--------------|--------|----|
|   |            | Acute                              | Chronic |  |   |                               | Field Sample | Result | FQ          | RC     | Field Sample | Result | FQ          | RC | Field Sample | Result | FQ | RC | Field Sample | Result | FQ |
| <b>VOLATILES (µg/L)</b>                 |            |                                    |         |  |   |                               |              |        |             |        |              |        |             |    |              |        |    |    |              |        |    |
| Acetone                                 | 67-64-1    | NE                                 | NE      | 1500   | NE  | NE                            | 5.3          | B      | bt          | 9.3    | B            | bt     | 10.6        | B  | bt           | 6.5    | B  | bt | 14.7         | B      | bt |
| Bromomethane                            | 74-83-9    | NE                                 | NE      | NE   | 1500  | NE                            | 0.64         | B      | bl          | 0.6    | B            | bl     | ND          | U  | ND           | ND     | U  | ND | 0.51         | B      | bl |
| Chloroform                              | 67-66-3    | NE                                 | NE      | 1.8  | 4700  | NE                            | ND           | U      | ND          | ND     | U            | ND     | ND          | U  | ND           | ND     | U  | ND | 0.47         | J      |    |
| cis-1,2-Dichloroethene                  | 156-59-2   | NE                                 | NE      | 590  | NE  | 20                            | 1.1          | ND     | U           | ND     | U            | ND     | ND          | U  | ND           | ND     | U  | ND | ND           | U      |    |
| Trichloroethene                         | 79-01-6    | NE                                 | NE      | 21   | 300   | 30                            | 4.2          | ND     | U           | ND     | U            | ND     | ND          | U  | ND           | ND     | U  | ND | ND           | U      |    |
| <b>SEMI-VOLATILES (µg/L)</b>            |            |                                    |         |  |   |                               |              |        |             |        |              |        |             |    |              |        |    |    |              |        |    |
| 1,4-Dioxane                             | 123-91-1   | NE                                 | NE      | 22000  | NE  | 20                            | NS           |        |             | NS     |              |        | NS          |    |              | NS     |    |    | 0.064        | J      |    |
| <b>POLYCHLORINATED BIPHENYLS (µg/L)</b> |            |                                    |         |  |   |                               |              |        |             |        |              |        |             |    |              |        |    |    |              |        |    |
| Total PCBs (6)                          | 1336-36-3  | NE                                 | 0.014   | NE   | 0.00064   | 5                             | 0.0052       | J-     | s           | 0.0082 | J+           | ps     | 0.0059      | J- | s            | 0.0076 | J- | s  | NS           |        |    |

**Bold values indicate detections**

**Yellow shading indicates a results that exceeds a screening criterion**

**References**

- 1 National Recommended Water Quality Criteria, <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters, Code of Maryland Regulations (COMAR) 26.08.02.03, <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
- 2 United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003).
- 3 For carcinogens, criterion is for incremental cancer risk of 1x10<sup>-5</sup>
- 4 Risk-based swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, 1,4 dioxane, 1,2,4-trichlorobenzene and Total PCBs for Dark Head Cove.
- 5 The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the April 2019 event.

**Definitions**

- FQ - Final Qualifier
- MRC - Middle River Complex
- ND - not detected
- NE - not established
- NS - not sampled
- RC - Reason Code
- SW - surface water
- µg/L - micrograms per liter

**Data Qualifiers and Reason Codes**

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- J+/- = Reported value may not be accurate or precise, but the result may be biased high/low.
- B = The associated method blank or field blank displayed a detection greater than the DL.
- The reported result value is unchanged and did not require further qualification by data reviewers.
- bl = Laboratory blank contamination
- bt = Trip blank contamination
- m = Matrix spike recovery
- ps = Performance evaluation sample
- s = Surrogate percent recovery anomaly



**Table 2**  
**Detected Analytes and Screening Level Exceedances in April 2019 Surface Water Samples**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
**Page 5 of 5**

| Analyte (µg/L)                          | CAS Number | National Recommended Water Quality |         | Ecological Surface Water Screening Level (2) | Human Health Consumption (Organism Only) (1)(3) | Swimming Screening Levels (4) | MRC-SW1A 4/24/2019 Field Sample |    | MRC-SW2A 4/24/2019 Field Sample |    |
|---|------------|------------------------------------|---------|--|---|-------------------------------|---------------------------------|----|---------------------------------|----|
|   |            | Acute                              | Chronic |  |   |                               | Result                          | RC | Result                          | RC |
| <b>VOLATILES (µg/L)</b>                 |            |                                    |         |  |   |                               |                                 |    |                                 |    |
| Acetone                                 | 67-64-1    | NE                                 | NE      | 1500   | NE  | NE                            | 7.7                             | J  | 5.6                             | J  |
| Bromomethane                            | 74-83-9    | NE                                 | NE      | NE   | 1500  | NE                            | ND                              | U  | 0.4                             | B  |
| Chloroform                              | 67-68-3    | NE                                 | NE      | 1.8  | 4700  | NE                            | ND                              | U  | ND                              | U  |
| cis-1,2-Dichloroethene                  | 156-59-2   | NE                                 | NE      | 590  | NE  | 20                            | ND                              | U  | ND                              | U  |
| Trichloroethene                         | 79-01-6    | NE                                 | NE      | 21   | 300   | 30                            | ND                              | U  | ND                              | U  |
| <b>SEMI-VOLATILES (µg/L)</b>            |            |                                    |         |  |   |                               |                                 |    |                                 |    |
| 1,4-Dioxane                             | 123-91-1   | NE                                 | NE      | 22000  | NE  | 20                            | 0.045                           | J  | 0.039                           | J  |
| <b>POLYCHLORINATED BIPHENYLS (µg/L)</b> |            |                                    |         |  |   |                               |                                 |    |                                 |    |
| Total PCBs (6)                          | 1336-36-3  | NE                                 | 0.014   | NE   | 0.00064   | 5                             | NS                              |    | NS                              |    |

**Bold values indicate detections**

**Yellow shading indicates a results that exceeds a screening criterion**

**References**

- National Recommended Water Quality Criteria. <http://water.epa.gov/scitech/swguidance/standards/current/index.cfm>; and Maryland Numerical Criteria for Toxic Substances in Surface Waters. Code of Maryland Regulations (COMAR) 26.08.02.03. <http://www.dsd.state.md.us/comar/comarhtml/26/26.08.02.03-2.htm>
- United States Environmental Protection Agency (USEPA) Region 3 Biological Technical Advisory Group (BTAG) Freshwater Screening Benchmarks. Value for 1,4-dioxane is the USEPA Region 5 ecological screening value (USEPA, 2003).
- For carcinogens, criterion is for incremental cancer risk of  $1 \times 10^{-5}$
- Risk-based swimming screening levels were developed for trichloroethene, cis-1,2-dichloroethene, 1,4 dioxane, 1,2,4-trichlorobenzene and Total PCBs for Dark Head Cove.
- The results shown are for the dichlorobiphenyl homolog group. Only dichlorobiphenyls were detected during the April 2019 event.

**Definitions**

- FQ - Final Qualifier
  - MRC - Middle River Complex
  - ND - not detected
  - NE - not established
  - NS - not sampled
  - RC - Reason Code
  - SW - surface water
  - µg/L - micrograms per liter
- Data Qualifiers and Reason Codes**
- J = Estimated concentration
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- bl = Laboratory blank contamination
  - bt = Trip blank contamination
  - m = Matrix spike recovery
  - ps = Performance evaluation sample
  - s = Surrogate percent recovery anomaly



**Table 3**  
**Field Measurements for Surface Water Quality, April 2019**  
**Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland**  
**Page 1 of 1**

| Location    | Date      | Time | Temp (°C) | pH (s.u.) | Specific Conductance (mS/cm) | Turb (NTU) | DO (mg/L) | ORP (mV) | Salinity (ppt) | Hardness (mg/L CaCO3) |
|-------------|-----------|------|-----------|-----------|------------------------------|------------|-----------|----------|----------------|-----------------------|
| MRC-SW1A    | 4/25/2019 | 1542 | 19.69     | 6.12      | 1.23                         | 1.70       | 7.10      | 226      | 0.61           | 129.7                 |
| MRC-SW2A    | 4/25/2019 | 1528 | 19.10     | 6.93      | 1.10                         | 2.70       | 6.23      | 198      | 0.55           | 129.7                 |
| MRC-SW5A1-S | 4/25/2019 | 1505 | 20.17     | 8.27      | 1.19                         | 0          | 7.61      | 177      | 0.59           | 129.7                 |
| MRC-SW5A2-S | 4/25/2019 | 1500 | 20.31     | 8.45      | 1.10                         | 0          | 8.50      | 176      | 0.54           | 129.7                 |
| MRC-SW5B-S  | 4/25/2019 | 1513 | 19.75     | 8.04      | 1.09                         | 0          | 8.07      | 190      | 0.54           | 129.7                 |
| MRC-SW6A-S  | 4/25/2019 | 1217 | 19.06     | 6.43      | 1.23                         | 0          | 8.72      | 252      | 0.61           | 129.7                 |
| MRC-SW6B-S  | 4/25/2019 | 1232 | 19.90     | 8.52      | 1.18                         | 0          | 8.31      | 192      | 0.59           | 129.7                 |
| MRC-SW7A-S  | 4/25/2019 | 1115 | 19.94     | 8.80      | 1.09                         | 0          | 7.98      | 173      | 0.54           | 129.7                 |
| MRC-SW7B-S  | 4/25/2019 | 1129 | 19.86     | 8.63      | 1.09                         | 0          | 7.92      | 175      | 0.54           | 129.7                 |
| MRC-SW8A-S  | 4/25/2019 | 1258 | 20.74     | 9.13      | 1.20                         | 0          | 8.63      | 169      | 0.60           | 129.7                 |
| MRC-SW8B-S  | 4/25/2019 | 1304 | 20.51     | 9.08      | 1.20                         | 0          | 9.58      | 169      | 0.60           | 129.7                 |
| MRC-SW9A-S  | 4/25/2019 | 1150 | 19.88     | 8.52      | 1.08                         | 0          | 6.77      | 185      | 0.53           | 129.7                 |
| MRC-SW9B-S  | 4/25/2019 | 1205 | 19.90     | 8.57      | 1.09                         | 0          | 7.56      | 181      | 0.54           | 129.7                 |
| MRC-SW11A-S | 4/25/2019 | 1335 | 20.37     | 8.90      | 1.09                         | 0          | 8.50      | 164      | 0.54           | 129.7                 |
| MRC-SW11B-S | 4/25/2019 | 1400 | 20.50     | 9.05      | 1.19                         | 0          | 8.22      | 162      | 0.59           | 129.7                 |
| MRC-SW12A-S | 4/25/2019 | 1320 | 20.39     | 8.86      | 1.19                         | 0          | 7.45      | 163      | 0.59           | 129.7                 |
| MRC-SW13A-S | 4/25/2019 | 1325 | 20.25     | 8.84      | 1.67                         | 0          | 8.25      | 169      | 0.59           | 129.7                 |
| MRC-SW15A-S | 4/25/2019 | 1442 | 20.46     | 9.01      | 1.19                         | 0          | 8.64      | 163      | 0.59           | 129.7                 |
| MRC-SW16A-S | 4/25/2019 | 1429 | 20.56     | 9.09      | 1.19                         | 0          | 9.47      | 161      | 0.59           | 129.7                 |
| MRC-SW17A   | 4/25/2019 | 1036 | 17.50     | 7.99      | 0.71                         | 0          | 9.02      | 167      | 0.34           | 181                   |
| MRC-SW18A-S | 4/25/2019 | 1245 | 20.46     | 8.69      | 1.19                         | 0          | 7.65      | 169      | 0.59           | 129.7                 |

Notes:

- Temp - Temperature
- (°C) - Degrees Celcius
- s.u. - Standard units
- µs/cm - MicroSiemens per centimeter
- Turb - Turbidity
- NTU - Nephelometric turbidity unit
- DO - Dissolved oxygen
- mg/L - milligrams per liter
- ORP - Oxidation reduction potential
- mV - millivolts
- ppt - parts per trillion



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## **APPENDICES**

**Appendix A—Surface Water Sampling Log Sheets**

**Appendix B—Data-Validation Report**

**Appendix C—Laboratory Analytical Data**



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# APPENDIX A

## Surface Water Sampling Forms







## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW1A Project No.: 60555202  
 Sample Location: MRC-SW1A

Sampled By: Zachary Neigh

- Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

- Type of Sample:  
 Low Concentration  
 High Concentration

### SAMPLING DATA:

|  |                   |              |                 |               |                    |              |                 |             |
|--|-------------------|--------------|-----------------|---------------|--------------------|--------------|-----------------|-------------|
| Date: 04/24/2019   | Color<br>(Visual) | pH<br>(S.U.) | S.C.<br>(mS/cm) | Temp.<br>(°C) | Turbidity<br>(NTU) | DO<br>(mg/l) | Salinity<br>(%) | ORP<br>(mV) |
| Time: 1015   |                   |              |                 |               |                    |              |                 |             |
| Method: Grab Sample  |                   |              |                 |               |                    |              |                 |             |
| Depth: 1 ft below water surface<br>Static Water Level: MRC-STAFF01<br>1007: 1.28 feet      1800: 0.38 feet |                   |              |                 |               |                    |              |                 |             |
|  | clear             | 6.12         | 1.23            | 19.69         | 1.7                | 7.1          | 0.61            | 226         |

### SAMPLE COLLECTION INFORMATION:

| Analysis                | Preservative | Container Requirements | Collected |
|-------------------------|--------------|------------------------|-----------|
| VOCs (8260C)            | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4-dioxane (8270D SIM) | None         | 2 - 1 L ambers         | Yes       |
|                         |              |                        |           |
|                         |              |                        |           |
|                         |              |                        |           |
|                         |              |                        |           |
|                         |              |                        |           |
|                         |              |                        |           |
|                         |              |                        |           |
| OBSERVATIONS / NOTES:   |              | MAP:                   |           |



Circle if Applicable: N/A

MS/MSD

Duplicate ID:

Signature:



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW2A Project No.: 60555202  
 Sample Location: MRC-SW2A  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1040  | clear          | 6.93      | 1.1          | 19.1       | 2.7             | 6.23      | 0.55         | 198      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface   |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet      1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4-dioxane (8270D SIM)        | None         | 2 - 1 L ambers         | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                    |
|-----------------------|---------------|------------------------------------|
| Circle if Applicable: | N/A           | Signature:<br><i>Zachary Neigh</i> |
| MS/MSD                | Duplicate ID: |                                    |



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A1-S Project No.: 60555202  
 Sample Location: MRC-SW5A1-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1145  | clear          | 8.27      | 1.19         | 20.17      | 0               | 7.61      | 0.59         | 177      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                    |
|-----------------------|---------------|------------------------------------|
| Circle if Applicable: | N/A           | Signature:<br><u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |                                    |



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5A2-S Project No.: 60555202  
 Sample Location: MRC-SW5A2-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1205  | clear          | 8.45      | 1.1          | 20.31      | 0               | 8.5       | 0.54         | 176      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet    1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                    |
|-----------------------|---------------|------------------------------------|
| Circle if Applicable: | N/A           | Signature:<br><u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |                                    |



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW5B-S Project No.: 60555202  
 Sample Location: MRC-SW5B-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1120  | clear          | 8.04      | 1.09         | 19.75      | 0               | 8.07      | 0.54         | 190      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet    1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |            |                      |
|-----------------------|---------------|------------|----------------------|
| Circle if Applicable: | N/A           | Signature: | <u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |            |                      |



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6A-S Project No.: 60555202  
 Sample Location: MRC-SW6A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 0820  | clear          | 6.43      | 1.23         | 19.06      | 0               | 8.72      | 0.61         | 252      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4 Dioxane (8270D SIM)        | None         | 2 - 1000 mL ambers     | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |

OBSERVATIONS / NOTES: \_\_\_\_\_ MAP: \_\_\_\_\_



Circle if Applicable: N/A Signature: Zachary Neigh

MS/MSD Duplicate ID: \_\_\_\_\_



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW6B-S Project No.: 60555202  
 Sample Location: MRC-SW6B-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 0850  | clear          | 8.52      | 1.18         | 19.9       | 0               | 8.3       | 0.59         | 192      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4 Dioxane (8270D SIM)        | None         | 2 - 1000 mL ambers     | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |

OBSERVATIONS / NOTES: \_\_\_\_\_ MAP: \_\_\_\_\_



Circle if Applicable: N/A Signature: Zachary Neigh

MS/MSD Duplicate ID: \_\_\_\_\_



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7A-S Project No.: 60555202  
 Sample Location: MRC-SW7A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 0945  | clear          | 8.8       | 1.09         | 19.94      | 0               | 7.98      | 0.54         | 173      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
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|                                |              |                        |           |
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|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                |
|-----------------------|---------------|----------------|
| Circle if Applicable: | N/A           | Signature:<br> |
| MS/MSD                | Duplicate ID: |                |





## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW7B-S Project No.: 60555202  
 Sample Location: MRC-SW7B-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1015  | clear          | 8.63      | 1.09         | 19.86      | 0               | 7.92      | 0.54         | 175      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
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|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                    |
|-----------------------|---------------|------------------------------------|
| Circle if Applicable: | N/A           | Signature:<br><i>Zachary Neigh</i> |
| MS/MSD                | Duplicate ID: |                                    |



### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8A-S-042419  
 Sample Location: MRC-SW8A-S Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

|                                      |                   |              |                 |               |                    |              |                 |             |
|--------------------------------------|-------------------|--------------|-----------------|---------------|--------------------|--------------|-----------------|-------------|
| Date: 04/24/2019                     | Color<br>(Visual) | pH<br>(S.U.) | S.C.<br>(mS/cm) | Temp.<br>(°C) | Turbidity<br>(NTU) | DO<br>(mg/l) | Salinity<br>(%) | ORP<br>(mV) |
| Time: 1520                           |                   |              |                 |               |                    |              |                 |             |
| Method: Grab Sample                  |                   |              |                 |               |                    |              |                 |             |
| Depth: 1 ft below water surface      |                   |              |                 |               |                    |              |                 |             |
| Static Water Level: MRC-STAFF01      | clear             | 9.13         | 1.2             | 20.74         | 0                  | 8.63         | 0.6             | 169         |
| 1007: 1.28 feet      1800: 0.38 feet |                   |              |                 |               |                    |              |                 |             |

**SAMPLE COLLECTION INFORMATION:**

| Analysis                 | Preservative | Container Requirements | Collected |
|--------------------------|--------------|------------------------|-----------|
| VOCs (8260C)             | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4 Dioxane (8270D SIM)  | None         | 2 - 1000 mL ambers     | Yes       |
| PCB Homologs (680/8260C) | None         | 2 - 1 L amber          | Yes       |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
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|                          |              |                        |           |
| OBSERVATIONS / NOTES:    |              | MAP:                   |           |



|                                  |  |                                    |
|----------------------------------|--|------------------------------------|
| Circle if Applicable: <u>Yes</u> |  | Signature:<br><u>Zachary Neigh</u> |
| MS/MSD                           | Duplicate ID: <u>MRC-SW8A-S-DUP-042419</u> |                                    |
| Yes                              | Yes  |                                    |



### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW8B-S Project No.: 60555202  
 Sample Location: MRC-SW8B-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

|   |                                   |                             |                               |                               |                                |                             |                               |                           |
|---|-----------------------------------|-----------------------------|-------------------------------|-------------------------------|--------------------------------|-----------------------------|-------------------------------|---------------------------|
| Date: 04/24/2019  | Color<br>(Visual)<br><b>clear</b> | pH<br>(S.U.)<br><b>9.08</b> | S.C.<br>(mS/cm)<br><b>1.2</b> | Temp.<br>(°C)<br><b>20.51</b> | Turbidity<br>(NTU)<br><b>0</b> | DO<br>(mg/l)<br><b>9.58</b> | Salinity<br>(%)<br><b>0.6</b> | ORP<br>(mV)<br><b>169</b> |
| Time: 1600  |                                   |                             |                               |                               |                                |                             |                               |                           |
| Method: Grab Sample   |                                   |                             |                               |                               |                                |                             |                               |                           |
| Depth: 1 ft below water surface                                       |                                   |                             |                               |                               |                                |                             |                               |                           |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet    1800: 0.38 feet |                                   |                             |                               |                               |                                |                             |                               |                           |

**SAMPLE COLLECTION INFORMATION:**

| Analysis                 | Preservative | Container Requirements | Collected |
|--------------------------|--------------|------------------------|-----------|
| VOCs (8260C)             | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4 Dioxane (8270D SIM)  | None         | 2 - 1000 mL ambers     | Yes       |
| PCB Homologs (680/8260C) | None         | 2 - 1 L amber          | Yes       |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
|                          |              |                        |           |
| OBSERVATIONS / NOTES:    |              | MAP:                   |           |



Circle if Applicable: N/A

|        |               |                                 |
|--------|---------------|---------------------------------|
| MS/MSD | Duplicate ID: | Signature: <u>Zachary Neigh</u> |
|--------|---------------|---------------------------------|



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9A-S Project No.: 60555202  
 Sample Location: MRC-SW9A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 0905  | clear          | 8.52      | 1.08         | 19.88      | 0               | 6.77      | 0.53         | 185      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                    |
|-----------------------|---------------|------------------------------------|
| Circle if Applicable: |               | Signature:<br><u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |                                    |



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW9B-S Project No.: 60555202  
 Sample Location: MRC-SW9B-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/25/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 0920  | clear          | 8.57      | 1.09         | 19.9       | 0               | 7.56      | 0.54         | 181      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                 |
|-----------------------|---------------|---------------------------------|
| Circle if Applicable: |               | Signature: <u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |                                 |



**SURFACE WATER SAMPLE LOG SHEET**

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW11A-S Project No.: 60555202  
 Sample Location: MRC-SW11A-S  
 Sampled By: Zachary Neigh

- Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_
- Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

|  |                   |              |                 |               |                    |              |                 |             |
|--|-------------------|--------------|-----------------|---------------|--------------------|--------------|-----------------|-------------|
| Date: 04/24/2019   | Color<br>(Visual) | pH<br>(S.U.) | S.C.<br>(mS/cm) | Temp.<br>(°C) | Turbidity<br>(NTU) | DO<br>(mg/l) | Salinity<br>(%) | ORP<br>(mV) |
| Time: 1335   |                   |              |                 |               |                    |              |                 |             |
| Method: Grab Sample  |                   |              |                 |               |                    |              |                 |             |
| Depth: 1 ft below water surface                                    |                   |              |                 |               |                    |              |                 |             |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet 1800: 0.38 feet |                   |              |                 |               |                    |              |                 |             |
|  | <b>clear</b>      | <b>8.9</b>   | <b>1.09</b>     | <b>20.37</b>  | <b>0</b>           | <b>8.5</b>   | <b>0.54</b>     | <b>164</b>  |

**SAMPLE COLLECTION INFORMATION:**

| Analysis                     | Preservative | Container Requirements | Collected |
|------------------------------|--------------|------------------------|-----------|
| VOCs (8260C)                 | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)     | None         | 2 - 1 L amber          | Yes       |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
| <b>OBSERVATIONS / NOTES:</b> |              | <b>MAP:</b>            |           |



Circle if Applicable: N/A Signature: Zachary Neigh

MS/MSD Duplicate ID:



## SURFACE WATER SAMPLE LOG SHEET

|  |                                     |                    |
|--|-------------------------------------|--------------------|
| Project Site Name: <u>Lockheed Martin Corporation Middle River Complex</u>   | Sample ID No.: <u>MRC-SW11B-S</u>   | Project No.: _____ |
| <u>60555202</u>  | Sample Location: <u>MRC-SW11B-S</u> |                    |
| Sampled By: <u>Zachary Neigh</u>   |                                     |                    |
| <input type="checkbox"/> Domestic Well Data<br><input type="checkbox"/> Monitoring Well Data<br><input checked="" type="checkbox"/> Other: <u>Tidal Creek - Freshwater</u><br><input type="checkbox"/> QA Sample Type: _____ |                                     |                    |
| Type of Sample:<br><input checked="" type="checkbox"/> Low Concentration<br><input type="checkbox"/> High Concentration  |                                     |                    |

| SAMPLING DATA:                       |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |
|--------------------------------------|---------------------------------------|---------------------------------|------------------------------------|----------------------------------|------------------------------------|---------------------------------|------------------------------------|-------------------------------|
| Date: 04/24/2019                     | Color<br>(Visual)<br><br><b>clear</b> | pH<br>(S.U.)<br><br><b>9.05</b> | S.C.<br>(mS/cm)<br><br><b>1.19</b> | Temp.<br>(°C)<br><br><b>20.5</b> | Turbidity<br>(NTU)<br><br><b>0</b> | DO<br>(mg/l)<br><br><b>8.22</b> | Salinity<br>(%)<br><br><b>0.59</b> | ORP<br>(mV)<br><br><b>162</b> |
| Time: 1400                           |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |
| Method: Grab Sample                  |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |
| Depth: 1 ft below water surface      |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |
| Static Water Level: MRC-STAFF01      |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |
| 1007: 1.28 feet      1800: 0.38 feet |                                       |                                 |                                    |                                  |                                    |                                 |                                    |                               |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



|                       |               |                                 |
|-----------------------|---------------|---------------------------------|
| Circle if Applicable: | N/A           | Signature: <u>Zachary Neigh</u> |
| MS/MSD                | Duplicate ID: |                                 |



### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW12A-S Project No.: 60555202  
 Sample Location: MRC-SW12A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1320  | clear          | 8.86      | 1.19         | 20.39      | 0               | 7.45      | 0.59         | 163      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet    1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



Circle if Applicable: N/A      Signature: Zachary Neigh

|        |               |
|--------|---------------|
| MS/MSD | Duplicate ID: |
|--------|---------------|





### SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW13A-S Project No.: 60555202  
 Sample Location: MRC-SW13A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:                  |                   |              |                 |               |                    |              |                 |             |
|---------------------------------|-------------------|--------------|-----------------|---------------|--------------------|--------------|-----------------|-------------|
| Date: 04/24/2019                | Color<br>(Visual) | pH<br>(S.U.) | S.C.<br>(mS/cm) | Temp.<br>(°C) | Turbidity<br>(NTU) | DO<br>(mg/l) | Salinity<br>(%) | ORP<br>(mV) |
| Time: 1300                      |                   |              |                 |               |                    |              |                 |             |
| Method: Grab Sample             |                   |              |                 |               |                    |              |                 |             |
| Depth: 1 ft below water surface |                   |              |                 |               |                    |              |                 |             |
| Static Water Level: MRC-STAFF01 | <b>clear</b>      | <b>8.84</b>  | <b>1.67</b>     | <b>20.25</b>  | <b>0</b>           | <b>8.25</b>  | <b>0.59</b>     | <b>169</b>  |
| 1007: 1.28 feet 1800: 0.38 feet |                   |              |                 |               |                    |              |                 |             |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |

OBSERVATIONS / NOTES: \_\_\_\_\_ MAP: \_\_\_\_\_



Circle if Applicable: N/A Signature: Zachary Neigh

|        |               |
|--------|---------------|
| MS/MSD | Duplicate ID: |
|--------|---------------|



**SURFACE WATER SAMPLE LOG SHEET**

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW15A-S Project No.: 60555202  
 Sample Location: MRC-SW15A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1420  | clear          | 9.01      | 1.19         | 20.46      | 0               | 8.64      | 0.59         | 163      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface                                       |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet    1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



Circle if Applicable: N/A Signature: Zachary Neigh

MS/MSD Duplicate ID: \_\_\_\_\_



## SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW16A-S Project No.: 60555202  
 Sample Location: MRC-SW16A-S  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

| SAMPLING DATA:  |                |           |              |            |                 |           |              |          |
|---|----------------|-----------|--------------|------------|-----------------|-----------|--------------|----------|
| Date: 04/24/2019  | Color (Visual) | pH (S.U.) | S.C. (mS/cm) | Temp. (°C) | Turbidity (NTU) | DO (mg/l) | Salinity (%) | ORP (mV) |
| Time: 1435  | clear          | 9.09      | 1.19         | 20.56      | 0               | 9.47      | 0.59         | 161      |
| Method: Grab Sample   |                |           |              |            |                 |           |              |          |
| Depth: 1 ft below water surface   |                |           |              |            |                 |           |              |          |
| Static Water Level: MRC-STAFF01<br>1007: 1.28 feet      1800: 0.38 feet |                |           |              |            |                 |           |              |          |

| SAMPLE COLLECTION INFORMATION: |              |                        |           |
|--------------------------------|--------------|------------------------|-----------|
| Analysis                       | Preservative | Container Requirements | Collected |
| VOCs (8260C)                   | HCl          | 2 - 40 mL glass vials  | Yes       |
| PCB Homologs (680/8260C)       | None         | 2 - 1 L amber          | Yes       |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
|                                |              |                        |           |
| OBSERVATIONS / NOTES:          |              | MAP:                   |           |



Circle if Applicable: N/A

|        |               |                                 |
|--------|---------------|---------------------------------|
| MS/MSD | Duplicate ID: | Signature: <u>Zachary Neigh</u> |
|--------|---------------|---------------------------------|



# SURFACE WATER SAMPLE LOG SHEET

Project Site Name: Lockheed Martin Corporation Middle River Complex Sample ID No.: MRC-SW17A Project No.: 60555202  
 Sample Location: MRC-SW17A  
 Sampled By: Zachary Neigh

Domestic Well Data  
 Monitoring Well Data  
 Other: Tidal Creek - Freshwater  
 QA Sample Type: \_\_\_\_\_

Type of Sample:  
 Low Concentration  
 High Concentration

**SAMPLING DATA:**

|   |                                   |                             |                                 |                              |                                |                             |                                |                           |
|---|-----------------------------------|-----------------------------|---------------------------------|------------------------------|--------------------------------|-----------------------------|--------------------------------|---------------------------|
| Date: 04/25/2019  | Color<br>(Visual)<br><b>clear</b> | pH<br>(S.U.)<br><b>7.99</b> | S.C.<br>(mS/cm)<br><b>0.705</b> | Temp.<br>(°C)<br><b>17.5</b> | Turbidity<br>(NTU)<br><b>0</b> | DO<br>(mg/l)<br><b>9.02</b> | Salinity<br>(%)<br><b>0.34</b> | ORP<br>(mV)<br><b>167</b> |
| Time: 1215  |                                   |                             |                                 |                              |                                |                             |                                |                           |
| Method: Grab Sample   |                                   |                             |                                 |                              |                                |                             |                                |                           |
| Depth: 1 ft below water surface                                       |                                   |                             |                                 |                              |                                |                             |                                |                           |
| Static Water Level: MRC-STAFF01<br>0809: 0.3 feet      1119: 1.3 feet |                                   |                             |                                 |                              |                                |                             |                                |                           |

**SAMPLE COLLECTION INFORMATION:**

| Analysis                     | Preservative | Container Requirements | Collected |
|------------------------------|--------------|------------------------|-----------|
| VOCs (8260C)                 | HCl          | 2 - 40 mL glass vials  | Yes       |
| 1,4 Dioxane (8270D SIM)      | None         | 2 - 1000 mL ambers     | Yes       |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
|                              |              |                        |           |
| <b>OBSERVATIONS / NOTES:</b> |              | <b>MAP:</b>            |           |



Circle if Applicable: N/A Signature: Zachary Neigh

|        |               |
|--------|---------------|
| MS/MSD | Duplicate ID: |
|--------|---------------|





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# APPENDIX B

## Data Validation Report





# Data Validation and Usability Report

**April 2019 – Triannual Surface Water Sampling**

Lockheed Martin Corporation  
Middle River Complex  
Middle River, Maryland

June 2019



# IDENTIFICATION FORM

## Data Validation and Data Usability Review



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Zachary Neigh  
Data Validator  
AECOM  
06/19/2019



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Naoum Tavantzis  
Project Chemist  
AECOM  
06/20/2019



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## I. Executive Summary

AECOM performed data validation on 100% of the surface water field investigative samples collected on April 24<sup>th</sup>, 2019 and April 25<sup>th</sup>, 2019 at the Lockheed Martin Middle River Complex located in Middle River, Maryland. The validation was performed to a United States Environmental Protection Agency (USEPA) Region III Inorganic Level I and Organic Level I based on the specifics of the analytical methods referenced and qualified according to the USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic/Inorganic (January 2017) Superfund Data Review, with the exception of blank detections which were qualified according to the USEPA Region III modifications to the National Functional Guidelines defining the use of the “B” flag.

The review was assisted through the use of an electronic data management tool that compiles batch-level quality control (QC) data submitted with the laboratory deliverables and identifies anomalies for verification and qualification by the data reviewer. This information is provided in the form of a structured workbook that includes field sample analytical results, QC sample results, batch associations, and QC criteria. Prior to validation, the quality assurance procedures applied to the process itself consist of reviewing the output for data completeness based on laboratory deliverables and chain of custody reports; verification of QC criteria based on the aforementioned data validation guidelines and project-specific Quality Assurance Project Plan (QAPP); and strict control of data management permissions. The resulting data validation workbooks were evaluated and validated using the AECOM automated validation assistant (AVA) tool. The specific data elements that were reviewed include:

- Holding times and sample preservation
- Blanks (Method, Trip, Field, and Equipment)
- Matrix spike (MS) and/or matrix spike duplicate (MSD) results
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) results
- Surrogate spike results
- Field duplicates
- Laboratory duplicates
- Sensitivity

Data validation qualifiers were applied to results where a QC nonconformance required qualification per USEPA guidance. All QC anomalies were assessed for their impact on data quality in regards to precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) as discussed in **II: PARCCS Data Quality**. A detailed list of the QC non-conformances can be found in **III: Data Validation Findings**. The associated field sample results that required qualification are listed in **IV: Qualified Field Sample Results**.





## II. PARCCS Data Quality

### *Precision*

Precision is the degree of agreement among repeated measurements of the same characteristic on the same sample or on separate samples collected as close as possible in time and place. Field sampling precision is measured using the field duplicate relative percent differences; laboratory precision is measured using laboratory duplicate relative percent differences and/or laboratory control spike and matrix spike duplicate relative percent differences. All quality control criteria impacting precision were met for the data reviewed.

### *Accuracy*

Accuracy is a measure of confidence in a measurement. The smaller the difference between the measurement of a parameter and its "true" or expected value, the more accurate the measurement. Analytical accuracy was assessed through the measurement of percent recoveries in the surrogate spikes, laboratory control spike pairs (LCS/LCSD) and the matrix spike pairs (MS/MSD).

The LCS performed in analytical batch 510561 displayed percent recoveries greater than the upper QC limits for 2-chloroethylvinylether and tertiary-amyl methyl ether. The associated field sample results were non-detect; no data qualifying action was required. No impact on data quality is anticipated from these anomalies.

The MS/MSD performed on field sample MRC-SW8A-S-042419 and MRC-SW8B-S-042419 displayed percent recoveries less than the QC limits for naphthalene and 2-chlorovinylether, respectively. The associated field sample results were non-detect and were qualified UJ,m. anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias.

The surrogate spikes performed on samples MRC-SW11A-S-042419, MRC-SW18A-S-042419, MRC-SW12A-S-042419, MRC-SW15A-S-042419, and MRC-SW16A-S-042419 displayed percent recoveries less than the lower QC limit for 4,4-DDT. The positive associated field sample results were qualified J-,s, while non-detects were qualified UJ,s. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a negative bias. Additionally, the surrogate spike performed on field sample MRC-SW18A-S-042419 displayed a percent recovery greater than upper QC limit for 4-bromofluorobenzene. The positive associated field sample result was qualified J+,s. This anomaly is considered minor and the qualified field sample result should be considered usable as an estimated value with a positive bias.

A laboratory-blind performance evaluation sample, MRC-SW20-042519, was prepared by adding certified concentrations of PCB homologs to one-liter of laboratory-provided deionized water. The laboratory-blind performance evaluation sample displayed percent recoveries greater

than the upper QC limit of 150% for dichlorobiphenyls (162%), monochlorobiphenyls (171%) and tetrachlorobiphenyls (170%). The positive associated field sample results were qualified J+,ps, unless previously qualified due to surrogate percent recovery anomalies. These anomalies are considered minor and the qualified field sample results should be considered usable as estimated values with a positive bias.

### ***Representativeness***

Representativeness qualitatively expresses the degree to which data accurately reflect site conditions. Factors that affect the representativeness of analytical data include appropriate sample population definitions, proper sample collection and preservation techniques, analytical holding times, use of standard analytical methods, and determination of matrix or analyte interferences. Representativeness is also monitored through the use of negative controls such as trip blanks, field blanks, and equipment blanks, along with adherence to the standard operating procedures and sampling plans.

Eight trip blanks, eight method blanks, and one field blank were assessed for their effect on data quality. In six instances, method blanks displayed detections greater than the method detection limits. The affected analytes included bromomethane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, and tetrachloroethene. The positive associated field sample results and field/trip blank results that were within five times the method blank concentrations were qualified B, bl. The qualified field sample results should be considered potential false positives. In 20 instances, trip blanks displayed detections greater than the method detection limit. The affected analytes included acetone, bromomethane, tert-butyl alcohol, and tetrachloroethane. All detections for tetrachloroethene and bromomethane were associated with method blank detections of the same analytes. Therefore, trip blank detections of those analytes were not used to qualify field sample results. The positive field sample results that were associated with the remaining trip blank detections and within five times the trip blank concentrations were qualified B, bt, unless previously qualified due to a method blank detection. The qualified field sample results should be considered potential false positives. The field blank, FB-042519-ZN, displayed a detection for bromomethane greater than the method detection limit. This field blank result was previously qualified due to a method blank detection for bromomethane; no further data qualifying action was taken.

### ***Comparability***

Comparability is the extent to which data from one study can be compared directly to either past data from the current project or data from another study. Using standardized sampling and analytical methods, units of reporting, and site selection procedures helps ensure comparability. Standard field sampling methods and current CLP analytical methods by an accredited laboratory were used in this investigation.

### ***Completeness***

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of data expected under normal conditions. It is expected that laboratories will provide data meeting system quality control acceptance criteria for all samples tested. Project completeness is determined by evaluating the planned versus actual quantities of usable data. A total of 19 field samples were validated, including 17 investigative surface water samples, one field duplicate, and one trip blank. All data are usable, as qualified, for their intended purpose based on the data reviewed.

### ***Sensitivity***

Sensitivity reflects the ability of the analytical method to detect analytes of interest below the level of concern. This goal is achieved by identifying the level of concern, choosing a method with appropriate method detection limits, and ensuring that the laboratory analyzes calibration standards at or below the level of concern. The laboratory was able to achieve the lowest reporting limits based on the analytical methods employed and the variety of matrices encountered. No field sample results were reported from dilutions. Any analytes detected below the reporting limit and above the method detection limit were reported and qualified "J" as estimated values by the laboratory.

### ***Overall Impact on Data Usability***

Overall data usability met the completeness requirement outlined in the QAPP at 100%. During the course of the data validation, several minor anomalies were noted which is to be anticipated based on statistical predictability of standard analytical procedures. Several field sample results were qualified due to these minor anomalies. All data are considered usable as qualified, for their intended purpose based on the data reviewed.



### III. Data Validation Findings

#### Volatile Organic Compounds

SW846-8260B

|               | Description         | Sample ID    | Analyte                | Value (Control Limit) |
|---------------|---------------------|--------------|------------------------|-----------------------|
| Holding Times | <i>No Anomalies</i> |              |                        |                       |
|               |                     | 2937789      | Bromomethane           | 0.43 ug/l (0.39 ug/l) |
|               |                     |              | Tetrachloroethene      | 0.69 ug/l (0.35 ug/l) |
|               |                     |              | 1,2,4-Trichlorobenzene | 0.88 ug/l (0.82 ug/l) |
|               |                     |              | 1,2,4-Trimethylbenzene | 0.32 ug/l (0.25 ug/l) |
|               |                     |              | 1,2-Dichlorobenzene    | 0.52 ug/l (0.38 ug/l) |
|               |                     |              | 1,3-Dichlorobenzene    | 0.64 ug/l (0.25 ug/l) |
|               |                     |              | 1,4-Dichlorobenzene    | 0.74 ug/l (0.27 ug/l) |
| Method Blanks | Detection > MDL     | 2938012      | 4-Chlorotoluene        | 0.50 ug/l (0.33 ug/l) |
|               |                     |              | Bromobenzene           | 0.39 ug/l (0.32 ug/l) |
|               |                     |              | Chlorobenzene          | 0.35 ug/l (0.19 ug/l) |
|               |                     |              | Cymene                 | 0.41 ug/l (0.32 ug/l) |
|               |                     |              | Naphthalene            | 5.0 ug/l (0.34 ug/l)  |
|               |                     |              | N-Butylbenzene         | 0.69 ug/l (0.60 ug/l) |
|               |                     |              | N-Propylbenzene        | 0.37 ug/l (0.33 ug/l) |
|               |                     | 2938016      | Bromomethane           | 0.44 ug/l (0.39 ug/l) |
|               |                     | 2938830      | Bromomethane           | 0.81 ug/l (0.39 ug/l) |
| Field Blanks  | Detection > MDL     | FB-042519-ZN | Bromomethane           | 0.42 ug/L (0.39 ug/L) |
|               |                     | TB-042419-1  | Bromomethane           | 0.42 ug/l (0.39 ug/l) |
|               |                     |              | Tetrachloroethene      | 0.35 ug/l (0.35 ug/l) |
|               |                     | TB-042419-2  | Acetone                | 6.8 ug/l (3.1 ug/l)   |
|               |                     |              | Bromomethane           | 0.43 ug/l (0.39 ug/l) |
|               |                     |              | Acetone                | 5.0 ug/l (3.1 ug/l)   |
|               |                     | TB-042419-3  | Bromomethane           | 0.40 ug/l (0.39 ug/l) |
|               |                     |              | TERT-BUTYL ALCOHOL     | 3.0 ug/l (2.2 ug/l)   |
|               |                     | TB-042519-1  | Acetone                | 5.3 ug/l (3.1 ug/l)   |
|               |                     |              | TERT-BUTYL ALCOHOL     | 2.3 ug/l (2.2 ug/l)   |
|               |                     |              | Acetone                | 5.0 ug/l (3.1 ug/l)   |
|               |                     | TB-042519-2  | Bromomethane           | 0.55 ug/l (0.39 ug/l) |
|               |                     |              | TERT-BUTYL ALCOHOL     | 2.5 ug/l (2.2 ug/l)   |
|               |                     |              | Acetone                | 7.7 ug/l (3.1 ug/l)   |
|               |                     | TB-042519-3  | Bromomethane           | 0.46 ug/l (0.39 ug/l) |
|               |                     |              | TERT-BUTYL ALCOHOL     | 2.9 ug/l (2.2 ug/l)   |
|               |                     |              | Acetone                | 7.9 ug/l (3.1 ug/l)   |
|               |                     | TB-042519-4  | TERT-BUTYL ALCOHOL     | 2.3 ug/l (2.2 ug/l)   |

Volatile Organic Compounds

SW846-8260B

| Description            | Sample ID                | Analyte                    | Value (Control Limit)                       |
|------------------------|--------------------------|----------------------------|---|
|                        | TB-042519-5              | Acetone                    | 6.4 ug/l (3.1 ug/l)                         |
|                        |                          | Bromomethane               | 0.51 ug/l (0.39 ug/l)                       |
|                        |                          | TERT-BUTYL ALCOHOL         | 2.5 ug/l (2.2 ug/l)                         |
| <b>LCS/LCSD</b>        | <b>LCS % Recovery</b>    | 2938013                    |   |
|                        |                          | 2-Chloroethylvinylether    | 153% (1-150%)                               |
|                        |                          | Tertiary-Amyl Methyl Ether | 125% (75-121%)                              |
| <b>MS/MSD</b>          | <b>MS/MSD % Recovery</b> | MRC-SW8B-S-042419          | 2-Chloroethylvinylether 0.4/0.38 % (1-150%) |
|                        |                          | MRC-SW8A-S-042419          | Naphthalene 51/51.5 % (56-134%)             |
| <b>Surrogate Spike</b> | <b>% Recovery</b>        | MRC-SW18A-S-042419         | 4-Bromofluorobenzene 116 % (79-114 %)       |
| Laboratory Duplicates  | No Anomalies             |                            |   |
| Field Duplicates       | No Anomalies             |                            |   |

1,4-Dioxane

SW846-8270D-SIM

| Description            | Sample ID           | Analyte | Value (Control Limit) |
|------------------------|---------------------|---------|-----------------------|
| Holding Times          | <i>No Anomalies</i> |         |                       |
| Method Blanks          | <i>No Anomalies</i> |         |                       |
| Field/Equipment Blanks | <i>No Anomalies</i> |         |                       |
| LCS/LCSD               | <i>No Anomalies</i> |         |                       |
| MS/MSD                 | <i>No Anomalies</i> |         |                       |
| Surrogate Spike        | <i>No Anomalies</i> |         |                       |
| Laboratory Duplicates  | <i>No Anomalies</i> |         |                       |
| Field Duplicates       | <i>No Anomalies</i> |         |                       |

PCB Homologs

EPA 680

| Description            | Sample ID           | Analyte            | Value (Control Limit)       |
|------------------------|---------------------|--------------------|-----------------------------|
| Holding Times          | <i>No Anomalies</i> |                    |                             |
| Method Blanks          | <i>No Anomalies</i> |                    |                             |
| Field/Equipment Blanks | <i>No Anomalies</i> |                    |                             |
| LCS/LCSD               | <i>No Anomalies</i> |                    |                             |
| MS/MSD                 | <i>No Anomalies</i> |                    |                             |
|                        | MRC-SW11A-S-042419  |                    | 29% (30-194%)               |
|                        | MRC-SW18A-S-042419  |                    | 26% (30-194%)               |
| <b>Surrogate Spike</b> | <b>% Recovery</b>   | MRC-SW12A-S-042419 | 4,4-DDT (p,p) 27% (30-194%) |
|                        |                     | MRC-SW15A-S-042419 | 16% (30-194%)               |
|                        |                     | MRC-SW16A-S-042419 | 23% (30-194%)               |

PCB Homologs  
EPA 680

|                       | Description         | Sample ID       | Analyte              | Value (Control Limit) |
|-----------------------|---------------------|-----------------|----------------------|-----------------------|
| Laboratory Duplicates | <i>No Anomalies</i> |                 |                      |                       |
| Field Duplicates      | <i>No Anomalies</i> |                 |                      |                       |
| Performance Sample    | % Recovery          | MRC-SW20-042519 | Dichlorobiphenyls    | 162% (40-150%)        |
|                       |                     |                 | Monochlorobiphenyls  | 171% (40-150%)        |
|                       |                     |                 | Tetrachlorobiphenyls | 170% (40-150%)        |





## IV. Qualified Field Sample Results

| Field Sample ID    | Analytical Method | Analyte                     | Result | Units | Qualifier | Reason Code |
|--------------------|-------------------|-----------------------------|--------|-------|-----------|-------------|
| FB-042519-ZN       | SW8260B           | Bromomethane                | 0.42   | ug/l  | B         | bl          |
| MRC-SW11A-S-042419 | E680              | Decachlorobiphenyl          | 0.027  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0054 | ug/l  | J-        | s           |
| MRC-SW11A-S-042419 | E680              | Heptachlorobiphenyls, Total | 0.016  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Hexachlorobiphenyls, Total  | 0.011  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Monochlorobiphenyls, Total  | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Nonachlorobiphenyls, Total  | 0.022  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Octachlorobiphenyls, Total  | 0.016  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Pentachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Tetrachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | E680              | Trichlorobiphenyls, Total   | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW11A-S-042419 | SW8260B           | 1,4-Dichlorobenzene         | 0.52   | ug/l  | B         | bl          |
| MRC-SW11A-S-042419 | SW8260B           | Acetone                     | 8.4    | ug/l  | B         | bt          |
| MRC-SW11B-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0054 | ug/l  | J+        | ps          |
| MRC-SW11B-S-042419 | SW8260B           | Acetone                     | 8.2    | ug/l  | B         | bt          |
| MRC-SW12A-S-042419 | E680              | Decachlorobiphenyl          | 0.026  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0052 | ug/l  | J-        | s           |
| MRC-SW12A-S-042419 | E680              | Heptachlorobiphenyls, Total | 0.016  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Hexachlorobiphenyls, Total  | 0.010  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Monochlorobiphenyls, Total  | 0.0052 | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Nonachlorobiphenyls, Total  | 0.021  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Octachlorobiphenyls, Total  | 0.016  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Pentachlorobiphenyls, Total | 0.010  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Tetrachlorobiphenyls, Total | 0.010  | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | E680              | Trichlorobiphenyls, Total   | 0.0052 | ug/l  | UJ        | s           |
| MRC-SW12A-S-042419 | SW8260B           | Acetone                     | 5.3    | ug/l  | B         | bt          |
| MRC-SW12A-S-042419 | SW8260B           | Bromomethane                | 0.64   | ug/l  | B         | bl          |
| MRC-SW13A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0082 | ug/l  | J+        | ps          |
| MRC-SW13A-S-042419 | SW8260B           | Acetone                     | 9.3    | ug/l  | B         | bt          |
| MRC-SW13A-S-042419 | SW8260B           | Bromomethane                | 0.60   | ug/l  | B         | bl          |
| MRC-SW15A-S-042419 | E680              | Decachlorobiphenyl          | 0.027  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0059 | ug/l  | J-        | s           |
| MRC-SW15A-S-042419 | E680              | Heptachlorobiphenyls, Total | 0.016  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Hexachlorobiphenyls, Total  | 0.011  | ug/l  | UJ        | s           |

| Field Sample ID    | Analytical Method | Analyte                     | Result | Units | Qualifier | Reason Code |
|--------------------|-------------------|-----------------------------|--------|-------|-----------|-------------|
| MRC-SW15A-S-042419 | E680              | Monochlorobiphenyls, Total  | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Nonachlorobiphenyls, Total  | 0.022  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Octachlorobiphenyls, Total  | 0.016  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Pentachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Tetrachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | E680              | Trichlorobiphenyls, Total   | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW15A-S-042419 | SW8260B           | 1,3-Dichlorobenzene         | 0.26   | ug/l  | B         | bl          |
| MRC-SW15A-S-042419 | SW8260B           | 1,4-Dichlorobenzene         | 0.45   | ug/l  | B         | bl          |
| MRC-SW15A-S-042419 | SW8260B           | Acetone                     | 10.6   | ug/l  | B         | bt          |
| MRC-SW16A-S-042419 | E680              | Decachlorobiphenyl          | 0.027  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0076 | ug/l  | J-        | s           |
| MRC-SW16A-S-042419 | E680              | Heptachlorobiphenyls, Total | 0.016  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Hexachlorobiphenyls, Total  | 0.011  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Monochlorobiphenyls, Total  | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Nonachlorobiphenyls, Total  | 0.022  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Octachlorobiphenyls, Total  | 0.016  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Pentachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Tetrachlorobiphenyls, Total | 0.011  | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | E680              | Trichlorobiphenyls, Total   | 0.0054 | ug/l  | UJ        | s           |
| MRC-SW16A-S-042419 | SW8260B           | 1,3-Dichlorobenzene         | 0.27   | ug/l  | B         | bl          |
| MRC-SW16A-S-042419 | SW8260B           | 1,4-Dichlorobenzene         | 0.30   | ug/l  | B         | bl          |
| MRC-SW16A-S-042419 | SW8260B           | Acetone                     | 6.5    | ug/l  | B         | bt          |
| MRC-SW17A-042519   | SW8260B           | Acetone                     | 14.7   | ug/l  | B         | bt          |
| MRC-SW17A-042519   | SW8260B           | Bromomethane                | 0.51   | ug/l  | B         | bl          |
| MRC-SW18A-S-042419 | E680              | Decachlorobiphenyl          | 0.025  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Dichlorobiphenyls, Total    | 0.0030 | ug/l  | J-        | s           |
| MRC-SW18A-S-042419 | E680              | Heptachlorobiphenyls, Total | 0.015  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Hexachlorobiphenyls, Total  | 0.010  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Monochlorobiphenyls, Total  | 0.0050 | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Nonachlorobiphenyls, Total  | 0.020  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Octachlorobiphenyls, Total  | 0.015  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Pentachlorobiphenyls, Total | 0.010  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Tetrachlorobiphenyls, Total | 0.010  | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | E680              | Trichlorobiphenyls, Total   | 0.0050 | ug/l  | UJ        | s           |
| MRC-SW18A-S-042419 | SW8260B           | 1,3-Dichlorobenzene         | 0.35   | ug/l  | B         | bl          |
| MRC-SW18A-S-042419 | SW8260B           | 1,4-Dichlorobenzene         | 0.32   | ug/l  | B         | bl          |

| Field Sample ID       | Analytical Method | Analyte                  | Result | Units | Qualifier | Reason Code |
|-----------------------|-------------------|--------------------------|--------|-------|-----------|-------------|
| MRC-SW18A-S-042419    | SW8260B           | TRICHLOROETHENE          | 0.86   | ug/l  | J+        | s           |
| MRC-SW1A-042419       | SW8260B           | Tetrachloroethene        | 0.40   | ug/l  | B         | bl          |
| MRC-SW2A-042419       | SW8260B           | Bromomethane             | 0.40   | ug/l  | B         | bl          |
| MRC-SW2A-042419       | SW8260B           | Tetrachloroethene        | 0.42   | ug/l  | B         | bl          |
| MRC-SW5A1-S-042419    | E680              | Dichlorobiphenyls, Total | 0.0035 | ug/l  | J+        | ps          |
| MRC-SW5A1-S-042419    | SW8260B           | Tetrachloroethene        | 0.40   | ug/l  | B         | bl          |
| MRC-SW5A2-S-042419    | E680              | Dichlorobiphenyls, Total | 0.0070 | ug/l  | J+        | ps          |
| MRC-SW5A2-S-042419    | SW8260B           | Bromomethane             | 0.55   | ug/l  | B         | bl          |
| MRC-SW5B-S-042419     | E680              | Dichlorobiphenyls, Total | 0.0043 | ug/l  | J+        | ps          |
| MRC-SW5B-S-042419     | SW8260B           | Tetrachloroethene        | 0.39   | ug/l  | B         | bl          |
| MRC-SW6A-S-042519     | E680              | Dichlorobiphenyls, Total | 0.0047 | ug/l  | J+        | ps          |
| MRC-SW6A-S-042519     | SW8260B           | Acetone                  | 5.3    | ug/l  | B         | bt          |
| MRC-SW6A-S-042519     | SW8260B           | Bromomethane             | 0.45   | ug/l  | B         | bl          |
| MRC-SW6A-S-042519     | SW8260B           | TERT-BUTYL ALCOHOL       | 3.7    | ug/l  | B         | bt          |
| MRC-SW6B-S-042519     | E680              | Dichlorobiphenyls, Total | 0.0048 | ug/l  | J+        | ps          |
| MRC-SW6B-S-042519     | SW8260B           | Acetone                  | 9.2    | ug/l  | B         | bt          |
| MRC-SW6B-S-042519     | SW8260B           | Bromomethane             | 0.67   | ug/l  | B         | bl          |
| MRC-SW7A-S-042519-A   | E680              | Dichlorobiphenyls, Total | 0.0054 | ug/l  | J+        | ps          |
| MRC-SW7A-S-042519-A   | SW8260B           | Acetone                  | 12.7   | ug/l  | B         | bt          |
| MRC-SW7A-S-042519-A   | SW8260B           | Bromomethane             | 0.61   | ug/l  | B         | bl          |
| MRC-SW7B-S-042519     | E680              | Dichlorobiphenyls, Total | 0.0065 | ug/l  | J+        | ps          |
| MRC-SW8A-S-042419     | E680              | Dichlorobiphenyls, Total | 0.0042 | ug/l  | J+        | ps          |
| MRC-SW8B-S-042419     | SW8260B           | 2-Chloroethylvinylether  | 2.0    | ug/l  | UJ        | m           |
| MRC-SW8A-S-042419     | SW8260B           | Acetone                  | 5.1    | ug/l  | B         | bt          |
| MRC-SW8A-S-042419     | SW8260B           | Naphthalene              | 2.0    | ug/l  | UJ        | m           |
| MRC-SW8A-S-DUP-042419 | E680              | Dichlorobiphenyls, Total | 0.0048 | ug/l  | J+        | ps          |
| MRC-SW8B-S-042419     | E680              | Dichlorobiphenyls, Total | 0.0068 | ug/l  | J+        | ps          |
| MRC-SW8B-S-042419     | SW8260B           | Acetone                  | 8.7    | ug/l  | B         | bt          |
| MRC-SW8B-S-042419     | SW8260B           | Bromomethane             | 0.72   | ug/l  | B         | bl          |
| MRC-SW9A-S-042519     | E680              | Dichlorobiphenyls, Total | 0.0032 | ug/l  | J+        | ps          |
| MRC-SW9A-S-042519     | SW8260B           | Acetone                  | 8.0    | ug/l  | B         | bt          |
| MRC-SW9A-S-042519     | SW8260B           | Bromomethane             | 0.49   | ug/l  | B         | bl          |
| MRC-SW9B-S-042519     | E680              | Dichlorobiphenyls, Total | 0.0042 | ug/l  | J+        | ps          |
| MRC-SW9B-S-042519     | SW8260B           | Acetone                  | 21.6   | ug/l  | B         | bt          |
| MRC-SW9B-S-042519     | SW8260B           | Bromomethane             | 0.42   | ug/l  | B         | bl          |
| TB-042419-1           | SW8260B           | Bromomethane             | 0.42   | ug/l  | B         | bl          |

| Field Sample ID | Analytical Method | Analyte           | Result | Units | Qualifier | Reason Code |
|-----------------|-------------------|-------------------|--------|-------|-----------|-------------|
| TB-042419-1     | SW8260B           | Tetrachloroethene | 0.35   | ug/l  | B         | bl          |
| TB-042419-2     | SW8260B           | Bromomethane      | 0.43   | ug/l  | B         | bl          |
| TB-042419-3     | SW8260B           | Bromomethane      | 0.40   | ug/l  | B         | bl          |
| TB-042519-2     | SW8260B           | Bromomethane      | 0.55   | ug/l  | B         | bl          |
| TB-042519-3     | SW8260B           | Bromomethane      | 0.46   | ug/l  | B         | bl          |
| TB-042519-5     | SW8260B           | Bromomethane      | 0.51   | ug/l  | B         | bl          |

**Appendix A**  
**Performance Evaluation Sample Results**



Appendix A  
 ALS-Rochester Performance Evaluation Sample Results  
 Lockheed Martin Corporation, Middle River Complex, Middle River, Maryland  
 Page 1 of 1

| MRC-SW20-042519      | True <sup>1</sup><br>(ug/L) | Measured<br>(ug/L) | Lab<br>Qualifier | MDL    | RL     | Percent<br>Recovery (%) | Control<br>Limit <sup>2</sup> (%) |
|----------------------|-----------------------------|--------------------|------------------|--------|--------|-------------------------|-----------------------------------|
| Dichlorobiphenyls    | 0.013                       | 0.021              |                  | 0.0023 | 0.0048 | 162%                    | 40-150%                           |
| Monochlorobiphenyls  | 0.014                       | 0.024              |                  | 0.0027 | 0.0048 | 171%                    | 40-150%                           |
| Tetrachlorobiphenyls | 0.023                       | 0.039              |                  | 0.0030 | 0.0096 | 170%                    | 40-150%                           |
| Trichlorobiphenyls   | 0.013                       | 0.015              |                  | 0.0011 | 0.0048 | 115%                    | 40-150%                           |

1: Phenova provided concentrations on Certificate of Analysis

2: Control limits provided by Phenova

Abbreviations

MDL: method detection limit

RL: reporting limit

ug/L: micrograms per liter





**Appendix B**  
**Data Validation Qualifiers and Reason Codes**



### Data Qualifying Codes

Two types of data qualifying codes or flags are applied in the course of the data review. The data validation flags indicate data that are not usable for decision-making, more than normally biased and/or variable, or not representative of field conditions. These codes and their definitions are presented below in the hierarchy stipulated in the USEPA Contract Laboratory Program National Functional Guidelines for Organic (August 2014) Data Review and the USEPA Region III Guidelines for Organic (September 1994) for blank qualifications only.

### Data Validation Flags

| Flag | Interpretation  |
|------|---|
| R    | The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.  |
| B    | The analyte was analyzed for, but not detected at a level greater than or equal to the level of the adjusted Detection Limit (DL) for sample and method.  |
| J+   | Reported value may not be accurate or precise, but the result may be biased high.   |
| J-   | Reported value may not be accurate or precise, but the result may be biased low.  |
| 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 Limit of Detection (LOD)). |
| NJ   | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.   |
| UJ   | The analyte was not detected at a level greater than or equal to the adjusted DL. However, the reported adjusted DL is approximate and may be inaccurate or imprecise.  |
| C    | This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by gas Chromatograph/Mass Spectrometer (GC/MS)   |
| X    | This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful.   |

The other type of code used by AECOM is a “Reason Code”. The reason code indicates the type of quality control failure that led to the application of the data validation flag.

### Reason Codes

| <b>Code</b> | <b>Description</b>  | <b>Code</b> | <b>Description</b>   |
|-------------|---|-------------|--|
| <b>a</b>    | Tracer recovery (radiochemical data only)                     | <b>ld</b>   | Laboratory duplicate RPDs (matrix duplicate, MSD, LCSD)            |
| <b>be</b>   | Equipment blank contamination                                 | <b>lp</b>   | Laboratory control sample/laboratory control sample duplicate RPDs |
| <b>bf</b>   | Field blank contamination                                     | <b>m</b>    | Matrix spike recovery  |
| <b>bi</b>   | Bias indeterminate  | <b>md</b>   | Matrix spike/matrix spike duplicate RPD                            |
| <b>bl</b>   | Laboratory blank contamination                                | <b>nb</b>   | Negative laboratory blank contamination                            |
| <b>bm</b>   | Missing Blank Information                                     | <b>p</b>    | Chemical preservation issue  |
| <b>bt</b>   | Trip Blank  | <b>pe</b>   | Post Extraction Spike  |
| <b>c</b>    | Calibration issue   | <b>ps</b>   | Performance Evaluation Sample                                      |
| <b>cl</b>   | Clean-up standard recovery                                    | <b>q</b>    | Quantitation issue   |
| <b>cp</b>   | Insufficient in growth (radiochemical data only)              | <b>r</b>    | Dual column RPD  |
| <b>cr</b>   | Chromatographic resolution                                    | <b>rp</b>   | Re-extraction precision issue [PAHs only]                          |
| <b>d</b>    | Reporting limit raised due to chromatographic interference    | <b>rt</b>   | SIM ions not within + 2 seconds                                    |
| <b>dt</b>   | Dissolved result > total over limit                           | <b>s</b>    | Surrogate recovery   |
| <b>e</b>    | Ether interference  | <b>sc</b>   | Sample collection issues   |
| <b>fd</b>   | Field duplicate RPDs  | <b>sp</b>   | Sample preparation issue   |
| <b>g</b>    | Chromatographic pattern match issue                           | <b>su</b>   | Evidence of ion suppression  |
| <b>h</b>    | Holding times   | <b>t</b>    | Temperature Preservation Issue                                     |
| <b>i</b>    | Internal standard areas                                       | <b>u</b>    | High combined sample result uncertainty (radiochemical data only)  |
| <b>ii</b>   | Injection internal standard area or retention time exceedance | <b>v</b>    | Compound identification issue                                      |
| <b>k</b>    | Estimated Maximum Possible Concentrations                     | <b>x</b>    | Low % solids   |
| <b>l</b>    | LCS recoveries  | <b>y</b>    | Serial dilution results  |
| <b>lc</b>   | Labeled compound recovery                                     | <b>z</b>    | ICS results  |

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**APPENDIX C**  
**Laboratory Analytical Data**





May 9, 2019

Ms. Victoria Kirkpatrick  
AECOM - Germantown  
12420 Milestone Center Dr.  
Suite 150  
Germantown, MD 20876

## Certificate of Analysis

|                 |                                  |               |                           |
|-----------------|----------------------------------|---------------|---------------------------|
| Project Name:   | <b>2018-MIDDLE RIVER COMPLEX</b> | Workorder:    | <b>3029976</b>            |
| Purchase Order: | <b>95840ACM</b>                  | Workorder ID: | <b>LMC MRC / 95840ACM</b> |

Dear Ms. Kirkpatrick:

Enclosed are the analytical results for samples received by the laboratory on Thursday, April 25, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Zachary Neigh , Ms. Holly Brown , Mr. Ravi Damera , Mr. Naoum Tavantzis

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Mrs. Vanessa N Badman  
Project Coordinator

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### SAMPLE SUMMARY

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID             | Matrix | Date Collected  | Date Received   | Collected By        |
|------------|-----------------------|--------|-----------------|-----------------|---------------------|
| 3029976001 | MRC-SW8A-S-042419     | Water  | 4/24/2019 15:20 | 4/25/2019 21:00 | Collected by Client |
| 3029976002 | TB-042519-1           | Water  | 4/25/2019 21:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976003 | MRC-SW8A-S-DUP-042419 | Water  | 4/24/2019 15:25 | 4/25/2019 21:00 | Collected by Client |
| 3029976004 | MRC-SW8B-S-042419     | Water  | 4/24/2019 16:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976005 | TB-042519-2           | Water  | 4/25/2019 21:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976006 | MRC-SW20-042519       | Water  | 4/25/2019 10:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976007 | FB-052519-ZN          | Water  | 4/25/2019 10:55 | 4/25/2019 21:00 | Collected by Client |
| 3029976008 | MRC-SW7A-S-042519-A   | Water  | 4/25/2019 09:45 | 4/25/2019 21:00 | Collected by Client |
| 3029976009 | MRC-SW7B-S-042519     | Water  | 4/25/2019 10:15 | 4/25/2019 21:00 | Collected by Client |
| 3029976010 | MRC-SW9A-S-042519     | Water  | 4/25/2019 09:05 | 4/25/2019 21:00 | Collected by Client |
| 3029976011 | TB-042519-3           | Water  | 4/25/2019 21:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976012 | MRC-SW9B-S-042519     | Water  | 4/25/2019 09:25 | 4/25/2019 21:00 | Collected by Client |
| 3029976013 | MRC-SW6B-S-042519     | Water  | 4/25/2019 08:50 | 4/25/2019 21:00 | Collected by Client |
| 3029976014 | MRC-SW6A-S-042519     | Water  | 4/25/2019 08:20 | 4/25/2019 21:00 | Collected by Client |
| 3029976015 | TB-042519-4           | Water  | 4/25/2019 21:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976016 | MRC-W17A-042519       | Water  | 4/25/2019 09:25 | 4/25/2019 21:00 | Collected by Client |
| 3029976017 | F001-IDW-TUBE         | Solid  | 4/25/2019 13:15 | 4/25/2019 21:00 | Collected by Client |
| 3029976018 | F001-IDW-GLOVES       | Solid  | 4/25/2019 13:00 | 4/25/2019 21:00 | Collected by Client |
| 3029976019 | F001-IDW-PAPER        | Solid  | 4/25/2019 13:10 | 4/25/2019 21:00 | Collected by Client |
| 3029976020 | F001-IDW-STRING       | Solid  | 4/25/2019 13:05 | 4/25/2019 21:00 | Collected by Client |
| 3029976021 | TB-042519-5           | Water  | 4/25/2019 21:00 | 4/25/2019 21:00 | Collected by Client |

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**SAMPLE SUMMARY**

Workorder: 3029976 LMC MRC / 95840ACM

**Notes**

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

**Standard Acronyms/Flags**

|        |  |
|--------|--|
| J      | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte     |
| U      | Indicates that the analyte was Not Detected (ND)   |
| N      | Indicates presumptive evidence of the presence of a compound   |
| MDL    | Method Detection Limit   |
| PQL    | Practical Quantitation Limit   |
| RDL    | Reporting Detection Limit  |
| ND     | Not Detected - indicates that the analyte was Not Detected at the RDL  |
| Cntr   | Analysis was performed using this container  |
| RegLmt | Regulatory Limit   |
| LCS    | Laboratory Control Sample  |
| MS     | Matrix Spike   |
| MSD    | Matrix Spike Duplicate   |
| DUP    | Sample Duplicate   |
| %Rec   | Percent Recovery   |
| RPD    | Relative Percent Difference  |
| LOD    | DoD Limit of Detection   |
| LOQ    | DoD Limit of Quantitation  |
| DL     | DoD Detection Limit  |
| I      | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S)    | Surrogate Compound   |
| NC     | Not Calculated   |
| *      | Result outside of QC limits  |

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### PROJECT SUMMARY

Workorder: 3029976 LMC MRC / 95840ACM

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#### Workorder Comments

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Please see attached subcontracting from ALS Rochester. VNB 4/26/19

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001**

Date Collected: 4/24/2019 15:20

Matrix: Water

Sample ID: **MRC-SW8A-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.1J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001**

Date Collected: 4/24/2019 15:20

Matrix: Water

Sample ID: **MRC-SW8A-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Naphthalene                | ND      | 1,2  | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:45 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976001**

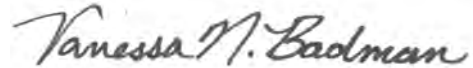
Date Collected: 4/24/2019 15:20

Matrix: Water

Sample ID: **MRC-SW8A-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 109            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 109            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| Dibromofluoromethane (S)      | 103            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| Toluene-d8 (S)                | 105            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 03:45 | PDK             | A         |             |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                   | 0.031J         | J           | ug/L         | 0.11          | 0.022 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:48    | GEC       | G           |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 85.3           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:48    | GEC       | G           |
| Fluoranthene-d10 (S)          | 92.2           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:48    | GEC       | G           |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/24/19 15:20   | SUB       | M           |



Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002**

Date Collected: 4/25/2019 21:00

Matrix: Water

Sample ID: **TB-042519-1**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.3J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| tert-Butyl Alcohol          | 2.3J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002**

Date Collected: 4/25/2019 21:00

Matrix: Water

Sample ID: **TB-042519-1**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:22 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976002**  
Sample ID: **TB-042519-1**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/3/19 00:22 | PDK          | A    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/3/19 00:22 | PDK          | A    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 109     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/3/19 00:22 | PDK  | A    |
| 4-Bromofluorobenzene (S)  | 107     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/3/19 00:22 | PDK  | A    |
| Dibromofluoromethane (S)  | 105     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/3/19 00:22 | PDK  | A    |
| Toluene-d8 (S)            | 105     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/3/19 00:22 | PDK  | A    |

Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976003**

Date Collected: 4/24/2019 15:25

Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-042419**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | ND      |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

 Lab ID: **3029976003**

Date Collected: 4/24/2019 15:25

Matrix: Water

 Sample ID: **MRC-SW8A-S-DUP-042419**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:08 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976003**

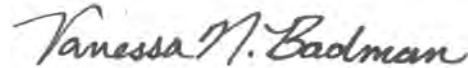
Date Collected: 4/24/2019 15:25

Matrix: Water

Sample ID: **MRC-SW8A-S-DUP-042419**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 110            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 110            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| Dibromofluoromethane (S)      | 105            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| Toluene-d8 (S)                | 105            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 04:08 | PDK             | A         |             |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                   | 0.024J         | J           | ug/L         | 0.11          | 0.020 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 15:34    | GEC       | C           |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 80.8           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 15:34    | GEC       | C           |
| Fluoranthene-d10 (S)          | 88.7           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 15:34    | GEC       | C           |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/24/19 15:25   | SUB       | E           |



Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004**

Date Collected: 4/24/2019 16:00

Matrix: Water

Sample ID: **MRC-SW8B-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 8.7J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Bromomethane                | 0.72J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      | 1,2  | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004**

Date Collected: 4/24/2019 16:00

Matrix: Water

Sample ID: **MRC-SW8B-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Toluene                    | 0.26J   | J    | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 01:41 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976004**

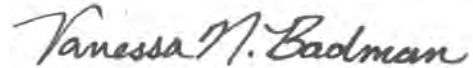
Date Collected: 4/24/2019 16:00

Matrix: Water

Sample ID: **MRC-SW8B-S-042419**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 119            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| Dibromofluoromethane (S)      | 105            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| Toluene-d8 (S)                | 101            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 01:41 | PDK             | A         |             |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                   | 0.047J         | J           | ug/L         | 0.10          | 0.020 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:09    | GEC       | C           |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 81.5           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:09    | GEC       | C           |
| Fluoranthene-d10 (S)          | 88.5           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:09    | GEC       | C           |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/24/19 16:00   | SUB       | E           |



Mrs. Vanessa N Badman  
Project Coordinator

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005**

Date Collected: 4/25/2019 21:00

Matrix: Water

Sample ID: **TB-042519-2**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.0J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Bromomethane                | 0.55J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| tert-Butyl Alcohol          | 2.5J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005**  
Sample ID: **TB-042519-2**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 23:21 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976005**  
 Sample ID: **TB-042519-2**

Date Collected: 4/25/2019 21:00 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/2/19 23:21 | PDK          | A    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/2/19 23:21 | PDK          | A    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 116     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/2/19 23:21 | PDK  | A    |
| 4-Bromofluorobenzene (S)  | 107     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/2/19 23:21 | PDK  | A    |
| Dibromofluoromethane (S)  | 106     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/2/19 23:21 | PDK  | A    |
| Toluene-d8 (S)            | 100     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/2/19 23:21 | PDK  | A    |



Mrs. Vanessa N Badman  
 Project Coordinator

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976006** Date Collected: 4/25/2019 10:00 Matrix: Water  
 Sample ID: **MRC-SW20-042519** Date Received: 4/25/2019 21:00

| Parameters | Results | Flag | Units | RDL | MDL | Method | Prepared By | Analyzed | By | Cntr |
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|

**SUBCONTRACTED ANALYSIS**

|                        |               |             |               |     |   |
|------------------------|---------------|-------------|---------------|-----|---|
| Subcontracted Analysis | See attached. | Subcontract | 4/25/19 10:00 | SUB | A |
|------------------------|---------------|-------------|---------------|-----|---|

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007**  
Sample ID: **FB-052519-ZN**

Date Collected: 4/25/2019 10:55 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | ND      |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Bromomethane                | 0.42J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007**  
Sample ID: **FB-052519-ZN**

Date Collected: 4/25/2019 10:55 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 23:44 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976007**  
 Sample ID: **FB-052519-ZN**

Date Collected: 4/25/2019 10:55 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr                  |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 118            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| 4-Bromofluorobenzene (S)      | 104            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| Dibromofluoromethane (S)      | 104            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| Toluene-d8 (S)                | 101            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/2/19 23:44 | PDK             | A                     |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |                       |
| 1,4-Dioxane                   | ND             |             | ug/L         | 0.10          | 0.019 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:43    | GEC C                 |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 78.2           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:43    | GEC C                 |
| Fluoranthene-d10 (S)          | 88.3           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 16:43    | GEC C                 |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |                       |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/25/19 10:55   | SUB E                 |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008**  
Sample ID: **MRC-SW7A-S-042519-A**

Date Collected: 4/25/2019 09:45 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 12.7    |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Bromomethane                | 0.61J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008**  
Sample ID: **MRC-SW7A-S-042519-A**

Date Collected: 4/25/2019 09:45 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:04 | PDK | A    |

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976008**  
 Sample ID: **MRC-SW7A-S-042519-A**

Date Collected: 4/25/2019 09:45 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 124            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 108            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| Toluene-d8 (S)                | 105            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 02:04  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/25/19 09:45 | SUB             | C         |             |

*Vanessa N. Badman*  
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 Project Coordinator

#### ALS Environmental Laboratory Locations Across North America

Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay  
 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey



**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009**

Date Collected: 4/25/2019 10:15

Matrix: Water

Sample ID: **MRC-SW7B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 7.1J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| tert-Butyl Alcohol          | 3.1J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009**

Date Collected: 4/25/2019 10:15

Matrix: Water

Sample ID: **MRC-SW7B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:27 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976009**

Date Collected: 4/25/2019 10:15

Matrix: Water

Sample ID: **MRC-SW7B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 121            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 106            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 106            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| Toluene-d8 (S)                | 105            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 02:27  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/25/19 10:15 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010**

Date Collected: 4/25/2019 09:05

Matrix: Water

Sample ID: **MRC-SW9A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 8.0J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Bromomethane                | 0.49J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010**

Date Collected: 4/25/2019 09:05

Matrix: Water

Sample ID: **MRC-SW9A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 02:50 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976010**

Date Collected: 4/25/2019 09:05

Matrix: Water

Sample ID: **MRC-SW9A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 119            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 106            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 105            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| Toluene-d8 (S)                | 103            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 02:50  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/25/19 09:05 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

 Lab ID: **3029976011**  
 Sample ID: **TB-042519-3**

 Date Collected: 4/25/2019 21:00 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 7.7J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Bromomethane                | 0.46J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| tert-Butyl Alcohol          | 2.9J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976011**  
Sample ID: **TB-042519-3**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:07 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976011**  
 Sample ID: **TB-042519-3**

Date Collected: 4/25/2019 21:00 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/3/19 00:07 | PDK          | A    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/3/19 00:07 | PDK          | A    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 117     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/3/19 00:07 | PDK  | A    |
| 4-Bromofluorobenzene (S)  | 106     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/3/19 00:07 | PDK  | A    |
| Dibromofluoromethane (S)  | 105     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/3/19 00:07 | PDK  | A    |
| Toluene-d8 (S)            | 103     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/3/19 00:07 | PDK  | A    |



Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012**

Date Collected: 4/25/2019 09:25

Matrix: Water

Sample ID: **MRC-SW9B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 21.6    |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Bromomethane                | 0.42J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012**

Date Collected: 4/25/2019 09:25

Matrix: Water

Sample ID: **MRC-SW9B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:14 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976012** Date Collected: 4/25/2019 09:25 Matrix: Water  
 Sample ID: **MRC-SW9B-S-042519** Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 120            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 107            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| Toluene-d8 (S)                | 101            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 03:14  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/25/19 09:25 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013**

Date Collected: 4/25/2019 08:50

Matrix: Water

Sample ID: **MRC-SW6B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 9.2J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Bromomethane                | 0.67J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013**

Date Collected: 4/25/2019 08:50

Matrix: Water

Sample ID: **MRC-SW6B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 03:37 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976013**

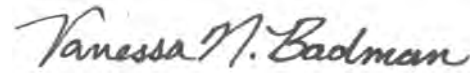
Date Collected: 4/25/2019 08:50

Matrix: Water

Sample ID: **MRC-SW6B-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 120            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 107            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| Dibromofluoromethane (S)      | 106            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| Toluene-d8 (S)                | 102            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 03:37 | PDK             | A         |             |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                   | 0.042J         | J           | ug/L         | 0.11          | 0.021 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:18    | GEC       | C           |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 84.3           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:18    | GEC       | C           |
| Fluoranthene-d10 (S)          | 91.6           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:18    | GEC       | C           |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/25/19 08:50   | SUB       | E           |



Mrs. Vanessa N Badman  
Project Coordinator

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014**

Date Collected: 4/25/2019 08:20

Matrix: Water

Sample ID: **MRC-SW6A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.3J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Bromomethane                | 0.45J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| tert-Butyl Alcohol          | 3.7J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey



**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014**

Date Collected: 4/25/2019 08:20

Matrix: Water

Sample ID: **MRC-SW6A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:01 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976014**

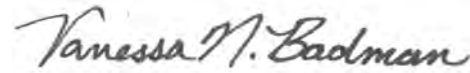
Date Collected: 4/25/2019 08:20

Matrix: Water

Sample ID: **MRC-SW6A-S-042519**

Date Received: 4/25/2019 21:00

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr                  |
|-------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 122            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| Dibromofluoromethane (S)      | 107            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| Toluene-d8 (S)                | 102            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 04:01 | PDK             | A                     |
| <b>SEMIVOLATILE SIM</b>       |                |             |              |               |       |               |                 |              |                 |                       |
| 1,4-Dioxane                   | 0.045J         | J           | ug/L         | 0.10          | 0.020 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:51    | GEC C                 |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S)   | 79.8           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:51    | GEC C                 |
| Fluoranthene-d10 (S)          | 88.6           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 17:51    | GEC C                 |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |       |               |                 |              |                 |                       |
| Subcontracted Analysis        | See attached.  |             |              |               |       | Subcontract   |                 |              | 4/25/19 08:20   | SUB E                 |



Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015**  
Sample ID: **TB-042519-4**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 7.9J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| tert-Butyl Alcohol          | 2.3J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015**  
Sample ID: **TB-042519-4**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:31 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976015**  
Sample ID: **TB-042519-4**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-----------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                    | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |
| mp-Xylene                   | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)   | 117            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |
| 4-Bromofluorobenzene (S)    | 105            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |
| Dibromofluoromethane (S)    | 105            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |
| Toluene-d8 (S)              | 104            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 00:31 | PDK             | A         |             |

Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016**  
Sample ID: **MRC-W17A-042519**

Date Collected: 4/25/2019 09:25 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 14.7    |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Bromomethane                | 0.51J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Chloroform                  | 0.47J   | J    | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016**  
Sample ID: **MRC-W17A-042519**

Date Collected: 4/25/2019 09:25 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 04:24 | PKD | A    |

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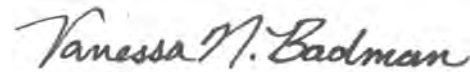
**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976016**  
Sample ID: **MRC-W17A-042519**

Date Collected: 4/25/2019 09:25 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr                  |
|-----------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------------------|
| o-Xylene                    | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| mp-Xylene                   | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)   | 121            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| 4-Bromofluorobenzene (S)    | 106            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| Dibromofluoromethane (S)    | 106            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| Toluene-d8 (S)              | 102            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/3/19 04:24 | PDK             | A                     |
| <b>SEMIVOLATILE SIM</b>     |                |             |              |               |       |               |                 |              |                 |                       |
| 1,4-Dioxane                 | 0.064J         | J           | ug/L         | 0.10          | 0.020 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 18:26    | GEC C                 |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S) | 80.4           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 18:26    | GEC C                 |
| Fluoranthene-d10 (S)        | 88             |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 18:26    | GEC C                 |



Mrs. Vanessa N Badman  
Project Coordinator

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey



**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

 Lab ID: **3029976017** Date Collected: 4/25/2019 13:15 Matrix: Solid  
 Sample ID: **F001-IDW-TUBE** Date Received: 4/25/2019 21:00

| Parameters                     | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr           |
|--------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|----------------|
| <b>TCLP VOLATILE ORGANICS</b>  |                |             |              |               |       |               |                 |              |                 |                |
| Benzene                        | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| 2-Butanone                     | ND             |             | ug/L         | 200           | 60.0  | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Carbon Tetrachloride           | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Chlorobenzene                  | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Chloroform                     | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| 1,2-Dichloroethane             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| 1,1-Dichloroethene             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Tetrachloroethene              | 48.1           |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Trichloroethene                | 264            |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Vinyl Chloride                 | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| 1,2-Dichloroethane-d4 (S)      | 108            |             | %            | 62 - 133      |       | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| 4-Bromofluorobenzene (S)       | 104            |             | %            | 79 - 114      |       | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Dibromofluoromethane (S)       | 111            |             | %            | 78 - 116      |       | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| Toluene-d8 (S)                 | 105            |             | %            | 76 - 127      |       | SW846 8260C   |                 | 5/8/19 11:47 | TMP             | A              |
| <b>PCBs</b>                    |                |             |              |               |       |               |                 |              |                 |                |
| Total Polychlorinated Biphenyl | ND             |             | mg/kg        | 3.8           | 0.73  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1016                   | ND             |             | mg/kg        | 0.42          | 0.076 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1221                   | ND             |             | mg/kg        | 0.42          | 0.038 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1232                   | ND             |             | mg/kg        | 0.42          | 0.076 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1242                   | ND             |             | mg/kg        | 0.42          | 0.11  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1248                   | ND             |             | mg/kg        | 0.42          | 0.076 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1254                   | ND             |             | mg/kg        | 0.42          | 0.076 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1260                   | ND             |             | mg/kg        | 0.42          | 0.076 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1262                   | ND             |             | mg/kg        | 0.42          | 0.088 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Aroclor-1268                   | ND             |             | mg/kg        | 0.42          | 0.11  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| Decachlorobiphenyl (S)         | 104            |             | %            | 49 - 115      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| Tetrachloro-m-xylene (S)       | 85.8           |             | %            | 27 - 137      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:39   | KJH A          |
| <b>WET CHEMISTRY</b>           |                |             |              |               |       |               |                 |              |                 |                |
| Cyanide, Reactive              | ND             |             | ppm          | 10.0          | 0.011 | SW-846 7.3CN  | 5/1/19 12:45    | VXF          | 5/3/19 10:19    | JXB A          |
| Ignitability                   | Not ignitable  | 1           |              |               |       | SW846 1030    |                 |              | 5/6/19 12:00    | DXC A          |
| Moisture                       | 0.9            |             | %            | 0.1           | 0.01  | S2540G-11     |                 |              | 4/29/19 12:02   | AXD            |
| Sulfide, Reactive              | 5.2J           | J           | ppm          | 6.3           | 1.4   | SW846 7.3     | 5/1/19 12:45    | VXF          | 5/1/19 19:25    | VXF A          |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976017**  
Sample ID: **F001-IDW-TUBE**

Date Collected: 4/25/2019 13:15 Matrix: Solid  
Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL     | Method        | Prepared By     | Analyzed      | By              | Cntr                  |
|-----------------------------|----------------|-------------|--------------|---------------|---------|---------------|-----------------|---------------|-----------------|-----------------------|
| Total Solids                | 99.1           |             | %            | 0.1           | 0.01    | S2540G-11     |                 | 4/29/19 12:02 | AXD             |                       |
| <b>TCLP METALS</b>          |                |             |              |               |         |               |                 |               |                 |                       |
| Arsenic, Total              | ND             |             | mg/L         | 0.14          | 0.046   | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Barium, Total               | ND             |             | mg/L         | 2.8           | 0.94    | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Cadmium, Total              | ND             |             | mg/L         | 0.011         | 0.0037  | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Chromium, Total             | ND             |             | mg/L         | 0.028         | 0.010   | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Lead, Total                 | 0.053          |             | mg/L         | 0.033         | 0.011   | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Mercury, Total              | ND             |             | mg/L         | 0.0020        | 0.00066 | SW846 7470A   | 5/6/19 08:50    | MSA           | 5/6/19 13:04    | MSA A                 |
| Selenium, Total             | ND             |             | mg/L         | 0.11          | 0.037   | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| Silver, Total               | ND             |             | mg/L         | 0.022         | 0.0070  | SW846 6010C   | 5/3/19 16:00    | AHI           | 5/6/19 12:53    | SRT A1                |
| <b>TCLP SEMI-VOLATILES</b>  |                |             |              |               |         |               |                 |               |                 |                       |
| mp-Cresol                   | ND             |             | ug/L         | 60.0          | 3.2     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| o-Cresol                    | ND             |             | ug/L         | 60.0          | 5.0     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 1,4-Dichlorobenzene         | ND             |             | ug/L         | 60.0          | 3.6     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 2,4-Dinitrotoluene          | ND             |             | ug/L         | 60.0          | 2.6     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Hexachlorobenzene           | ND             |             | ug/L         | 60.0          | 4.6     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Hexachlorobutadiene         | ND             |             | ug/L         | 60.0          | 3.8     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Hexachloroethane            | ND             |             | ug/L         | 60.0          | 6.0     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Nitrobenzene                | ND             |             | ug/L         | 60.0          | 5.6     | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Pentachlorophenol           | ND             |             | ug/L         | 120           | 24.0    | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Pyridine                    | ND             |             | ug/L         | 60.0          | 14.0    | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 2,4,5-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.0    | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 2,4,6-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.4    | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |         | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2,4,6-Tribromophenol (S)    | 91.9           |             | %            | 47 - 128      |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 2-Fluorobiphenyl (S)        | 81.6           |             | %            | 52 - 118      |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| 2-Fluorophenol (S)          | 63.1           |             | %            | 20 - 87       |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Nitrobenzene-d5 (S)         | 89.3           |             | %            | 27 - 139      |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Phenol-d5 (S)               | 39.8           |             | %            | 10 - 81       |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |
| Terphenyl-d14 (S)           | 92.8           |             | %            | 46 - 133      |         | SW846 8270D   | 5/3/19 13:40    | MXL           | 5/4/19 03:40    | DHF A                 |



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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976018**  
Sample ID: **F001-IDW-GLOVES**

Date Collected: 4/25/2019 13:00 Matrix: Solid  
Date Received: 4/25/2019 21:00

| Parameters                     | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr           |
|--------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|----------------|
| <b>TCLP VOLATILE ORGANICS</b>  |                |             |              |               |       |               |                 |              |                 |                |
| Benzene                        | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| 2-Butanone                     | ND             |             | ug/L         | 200           | 60.0  | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Carbon Tetrachloride           | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Chlorobenzene                  | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Chloroform                     | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| 1,2-Dichloroethane             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| 1,1-Dichloroethene             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Tetrachloroethene              | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Trichloroethene                | 133            |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Vinyl Chloride                 | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| 1,2-Dichloroethane-d4 (S)      | 108            |             | %            | 62 - 133      |       | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| 4-Bromofluorobenzene (S)       | 108            |             | %            | 79 - 114      |       | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Dibromofluoromethane (S)       | 108            |             | %            | 78 - 116      |       | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| Toluene-d8 (S)                 | 105            |             | %            | 76 - 127      |       | SW846 8260C   |                 | 5/8/19 12:10 | TMP             | A              |
| <b>PCBs</b>                    |                |             |              |               |       |               |                 |              |                 |                |
| Total Polychlorinated Biphenyl | ND             |             | mg/kg        | 3.5           | 0.68  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1016                   | ND             |             | mg/kg        | 0.38          | 0.070 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1221                   | ND             |             | mg/kg        | 0.38          | 0.035 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1232                   | ND             |             | mg/kg        | 0.38          | 0.070 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1242                   | ND             |             | mg/kg        | 0.38          | 0.10  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1248                   | ND             |             | mg/kg        | 0.38          | 0.070 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1254                   | ND             |             | mg/kg        | 0.38          | 0.070 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1260                   | ND             |             | mg/kg        | 0.38          | 0.070 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1262                   | ND             |             | mg/kg        | 0.38          | 0.082 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Aroclor-1268                   | ND             |             | mg/kg        | 0.38          | 0.10  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| Decachlorobiphenyl (S)         | 101            |             | %            | 49 - 115      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| Tetrachloro-m-xylene (S)       | 85.6           |             | %            | 27 - 137      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 18:51   | KJH A          |
| <b>WET CHEMISTRY</b>           |                |             |              |               |       |               |                 |              |                 |                |
| Cyanide, Reactive              | ND             |             | ppm          | 23.8          | 0.026 | SW-846 7.3CN  | 5/1/19 12:45    | VXF          | 5/3/19 10:19    | JXB A          |
| Ignitability                   | Not Ignitable  | 1           |              |               |       | SW846 1030    |                 |              | 5/8/19 09:00    | DXC A          |
| Moisture                       | 0.9            |             | %            | 0.1           | 0.01  | S2540G-11     |                 |              | 4/29/19 12:02   | AXD            |
| Sulfide, Reactive              | 19.0           |             | ppm          | 14.9          | 3.3   | SW846 7.3     | 5/1/19 12:45    | VXF          | 5/1/19 19:25    | VXF A          |

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

 Lab ID: **3029976018**  
 Sample ID: **F001-IDW-GLOVES**

 Date Collected: 4/25/2019 13:00 Matrix: Solid  
 Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL     | Method        | Prepared By      | Analyzed      | By              | Cntr                  |
|-----------------------------|----------------|-------------|--------------|---------------|---------|---------------|------------------|---------------|-----------------|-----------------------|
| Total Solids                | 99.1           |             | %            | 0.1           | 0.01    | S2540G-11     |                  | 4/29/19 12:02 | AXD             |                       |
| <b>TCLP METALS</b>          |                |             |              |               |         |               |                  |               |                 |                       |
| Arsenic, Total              | ND             |             | mg/L         | 0.14          | 0.046   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Barium, Total               | ND             |             | mg/L         | 2.8           | 0.94    | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Cadmium, Total              | ND             |             | mg/L         | 0.011         | 0.0037  | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Chromium, Total             | ND             |             | mg/L         | 0.028         | 0.010   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Lead, Total                 | ND             |             | mg/L         | 0.033         | 0.011   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Mercury, Total              | ND             |             | mg/L         | 0.0020        | 0.00066 | SW846 7470A   | 5/8/19 11:11 MSA | 5/8/19 14:34  | MSA             | A                     |
| Selenium, Total             | ND             |             | mg/L         | 0.11          | 0.037   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| Silver, Total               | ND             |             | mg/L         | 0.022         | 0.0070  | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 09:54  | SRT             | A1                    |
| <b>TCLP SEMI-VOLATILES</b>  |                |             |              |               |         |               |                  |               |                 |                       |
| mp-Cresol                   | ND             |             | ug/L         | 60.0          | 3.2     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| o-Cresol                    | ND             |             | ug/L         | 60.0          | 5.0     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 1,4-Dichlorobenzene         | ND             |             | ug/L         | 60.0          | 3.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 2,4-Dinitrotoluene          | ND             |             | ug/L         | 60.0          | 2.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Hexachlorobenzene           | ND             |             | ug/L         | 60.0          | 4.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Hexachlorobutadiene         | ND             |             | ug/L         | 60.0          | 3.8     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Hexachloroethane            | ND             |             | ug/L         | 60.0          | 6.0     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Nitrobenzene                | ND             |             | ug/L         | 60.0          | 5.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Pentachlorophenol           | ND             |             | ug/L         | 120           | 24.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Pyridine                    | ND             |             | ug/L         | 60.0          | 14.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 2,4,5-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 2,4,6-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.4    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |         | <i>Method</i> | <i>Prepared</i>  | <i>By</i>     | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2,4,6-Tribromophenol (S)    | 82.1           |             | %            | 47 - 128      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 2-Fluorobiphenyl (S)        | 72.6           |             | %            | 52 - 118      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| 2-Fluorophenol (S)          | 45.1           |             | %            | 20 - 87       |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Nitrobenzene-d5 (S)         | 68.2           |             | %            | 27 - 139      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Phenol-d5 (S)               | 27.6           |             | %            | 10 - 81       |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |
| Terphenyl-d14 (S)           | 79.1           |             | %            | 46 - 133      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 01:13  | DHF             | A                     |



 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

 Lab ID: **3029976019**  
 Sample ID: **F001-IDW-PAPER**

 Date Collected: 4/25/2019 13:10 Matrix: Solid  
 Date Received: 4/25/2019 21:00

| Parameters                     | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr           |
|--------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|----------------|
| <b>TCLP VOLATILE ORGANICS</b>  |                |             |              |               |       |               |                 |              |                 |                |
| Benzene                        | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| 2-Butanone                     | ND             |             | ug/L         | 200           | 60.0  | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Carbon Tetrachloride           | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Chlorobenzene                  | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Chloroform                     | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| 1,2-Dichloroethane             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| 1,1-Dichloroethene             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Tetrachloroethene              | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Trichloroethene                | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Vinyl Chloride                 | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| 1,2-Dichloroethane-d4 (S)      | 109            |             | %            | 62 - 133      |       | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| 4-Bromofluorobenzene (S)       | 107            |             | %            | 79 - 114      |       | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Dibromofluoromethane (S)       | 107            |             | %            | 78 - 116      |       | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| Toluene-d8 (S)                 | 106            |             | %            | 76 - 127      |       | SW846 8260C   |                 | 5/8/19 12:33 | TMP             | A              |
| <b>PCBs</b>                    |                |             |              |               |       |               |                 |              |                 |                |
| Total Polychlorinated Biphenyl | ND             |             | mg/kg        | 1.5           | 0.29  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1016                   | ND             |             | mg/kg        | 0.16          | 0.030 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1221                   | ND             |             | mg/kg        | 0.16          | 0.015 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1232                   | ND             |             | mg/kg        | 0.16          | 0.030 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1242                   | ND             |             | mg/kg        | 0.16          | 0.045 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1248                   | ND             |             | mg/kg        | 0.16          | 0.030 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1254                   | ND             |             | mg/kg        | 0.16          | 0.030 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1260                   | ND             |             | mg/kg        | 0.16          | 0.030 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1262                   | ND             |             | mg/kg        | 0.16          | 0.035 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Aroclor-1268                   | ND             |             | mg/kg        | 0.16          | 0.045 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| Decachlorobiphenyl (S)         | 69.1           |             | %            | 49 - 115      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| Tetrachloro-m-xylene (S)       | 63.8           |             | %            | 27 - 137      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:03   | KJH A          |
| <b>WET CHEMISTRY</b>           |                |             |              |               |       |               |                 |              |                 |                |
| Cyanide, Reactive              | ND             |             | ppm          | 10.6          | 0.011 | SW-846 7.3CN  | 5/1/19 12:45    | VXF          | 5/3/19 10:19    | JXB A          |
| Ignitability                   | Not Ignitable  | 1           |              |               |       | SW846 1030    |                 |              | 5/8/19 09:00    | DXC A          |
| Moisture                       | 54.8           |             | %            | 0.1           | 0.01  | S2540G-11     |                 |              | 4/29/19 12:02   | AXD            |
| Sulfide, Reactive              | 9.3            |             | ppm          | 6.6           | 1.5   | SW846 7.3     | 5/1/19 12:45    | VXF          | 5/1/19 19:25    | VXF A          |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976019**  
Sample ID: **F001-IDW-PAPER**

Date Collected: 4/25/2019 13:10 Matrix: Solid  
Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL     | Method        | Prepared By     | Analyzed      | By              | Cntr                  |
|-----------------------------|----------------|-------------|--------------|---------------|---------|---------------|-----------------|---------------|-----------------|-----------------------|
| Total Solids                | 45.2           |             | %            | 0.1           | 0.01    | S2540G-11     |                 | 4/29/19 12:02 | AXD             |                       |
| <b>TCLP METALS</b>          |                |             |              |               |         |               |                 |               |                 |                       |
| Arsenic, Total              | ND             |             | mg/L         | 0.14          | 0.046   | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Barium, Total               | ND             |             | mg/L         | 2.8           | 0.94    | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Cadmium, Total              | ND             |             | mg/L         | 0.011         | 0.0037  | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Chromium, Total             | ND             |             | mg/L         | 0.028         | 0.010   | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Lead, Total                 | ND             |             | mg/L         | 0.033         | 0.011   | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Mercury, Total              | ND             |             | mg/L         | 0.0020        | 0.00066 | SW846 7470A   | 5/8/19 11:11    | MSA           | 5/8/19 14:35    | MSA A                 |
| Selenium, Total             | ND             |             | mg/L         | 0.11          | 0.037   | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| Silver, Total               | ND             |             | mg/L         | 0.022         | 0.0070  | SW846 6010C   | 5/8/19 13:25    | AHI           | 5/9/19 09:58    | SRT A1                |
| <b>TCLP SEMI-VOLATILES</b>  |                |             |              |               |         |               |                 |               |                 |                       |
| mp-Cresol                   | ND             |             | ug/L         | 60.0          | 3.2     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| o-Cresol                    | ND             |             | ug/L         | 60.0          | 5.0     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 1,4-Dichlorobenzene         | ND             |             | ug/L         | 60.0          | 3.6     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 2,4-Dinitrotoluene          | ND             |             | ug/L         | 60.0          | 2.6     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Hexachlorobenzene           | ND             |             | ug/L         | 60.0          | 4.6     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Hexachlorobutadiene         | ND             |             | ug/L         | 60.0          | 3.8     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Hexachloroethane            | ND             |             | ug/L         | 60.0          | 6.0     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Nitrobenzene                | ND             |             | ug/L         | 60.0          | 5.6     | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Pentachlorophenol           | ND             |             | ug/L         | 120           | 24.0    | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Pyridine                    | ND             |             | ug/L         | 60.0          | 14.0    | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 2,4,5-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.0    | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 2,4,6-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.4    | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |         | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2,4,6-Tribromophenol (S)    | 78.2           |             | %            | 47 - 128      |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 2-Fluorobiphenyl (S)        | 74.8           |             | %            | 52 - 118      |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| 2-Fluorophenol (S)          | 47.8           |             | %            | 20 - 87       |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Nitrobenzene-d5 (S)         | 71.3           |             | %            | 27 - 139      |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Phenol-d5 (S)               | 29.2           |             | %            | 10 - 81       |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |
| Terphenyl-d14 (S)           | 84.6           |             | %            | 46 - 133      |         | SW846 8270D   | 5/8/19 15:00    | DXL           | 5/9/19 01:38    | DHF A                 |



Mrs. Vanessa N Badman  
Project Coordinator

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976020**  
Sample ID: **F001-IDW-STRING**

Date Collected: 4/25/2019 13:05 Matrix: Solid  
Date Received: 4/25/2019 21:00

| Parameters                     | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr           |
|--------------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|----------------|
| <b>TCLP VOLATILE ORGANICS</b>  |                |             |              |               |       |               |                 |              |                 |                |
| Benzene                        | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| 2-Butanone                     | ND             |             | ug/L         | 200           | 60.0  | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Carbon Tetrachloride           | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Chlorobenzene                  | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Chloroform                     | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| 1,2-Dichloroethane             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| 1,1-Dichloroethene             | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Tetrachloroethene              | ND             |             | ug/L         | 20.0          | 8.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Trichloroethene                | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Vinyl Chloride                 | ND             |             | ug/L         | 20.0          | 4.0   | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| 1,2-Dichloroethane-d4 (S)      | 110            |             | %            | 62 - 133      |       | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| 4-Bromofluorobenzene (S)       | 106            |             | %            | 79 - 114      |       | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Dibromofluoromethane (S)       | 106            |             | %            | 78 - 116      |       | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| Toluene-d8 (S)                 | 104            |             | %            | 76 - 127      |       | SW846 8260C   |                 | 5/8/19 12:56 | TMP             | A              |
| <b>PCBs</b>                    |                |             |              |               |       |               |                 |              |                 |                |
| Total Polychlorinated Biphenyl | ND             |             | mg/kg        | 4.6           | 0.89  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1016                   | ND             |             | mg/kg        | 0.51          | 0.092 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1221                   | ND             |             | mg/kg        | 0.51          | 0.046 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1232                   | ND             |             | mg/kg        | 0.51          | 0.092 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1242                   | ND             |             | mg/kg        | 0.51          | 0.14  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1248                   | ND             |             | mg/kg        | 0.51          | 0.092 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1254                   | ND             |             | mg/kg        | 0.51          | 0.092 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1260                   | ND             |             | mg/kg        | 0.51          | 0.092 | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1262                   | ND             |             | mg/kg        | 0.51          | 0.11  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Aroclor-1268                   | ND             |             | mg/kg        | 0.51          | 0.14  | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| <i>Surrogate Recoveries</i>    | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> Cntr |
| Decachlorobiphenyl (S)         | 119            | 2           | %            | 49 - 115      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| Tetrachloro-m-xylene (S)       | 94.4           |             | %            | 27 - 137      |       | SW846 8082A   | 4/30/19 03:45   | JTH          | 4/30/19 19:15   | KJH A          |
| <b>WET CHEMISTRY</b>           |                |             |              |               |       |               |                 |              |                 |                |
| Cyanide, Reactive              | ND             |             | ppm          | 10.9          | 0.012 | SW-846 7.3CN  | 5/1/19 12:45    | VXF          | 5/3/19 10:19    | JXB A          |
| Ignitability                   | Not Ignitable  | 1           |              |               |       | SW846 1030    |                 |              | 5/8/19 09:00    | DXC A          |
| Moisture                       | 42.7           |             | %            | 0.1           | 0.01  | S2540G-11     |                 |              | 4/29/19 12:02   | AXD            |
| Sulfide, Reactive              | 8.7            |             | ppm          | 6.2           | 1.4   | SW846 7.3     | 5/6/19 13:00    | VXF          | 5/6/19 20:25    | VXF A          |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976020**  
Sample ID: **F001-IDW-STRING**

Date Collected: 4/25/2019 13:05 Matrix: Solid  
Date Received: 4/25/2019 21:00

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL     | Method        | Prepared By      | Analyzed      | By              | Cntr                  |
|-----------------------------|----------------|-------------|--------------|---------------|---------|---------------|------------------|---------------|-----------------|-----------------------|
| Total Solids                | 57.3           |             | %            | 0.1           | 0.01    | S2540G-11     |                  | 4/29/19 12:02 | AXD             |                       |
| <b>TCLP METALS</b>          |                |             |              |               |         |               |                  |               |                 |                       |
| Arsenic, Total              | ND             |             | mg/L         | 0.14          | 0.046   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Barium, Total               | ND             |             | mg/L         | 2.8           | 0.94    | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Cadmium, Total              | ND             |             | mg/L         | 0.011         | 0.0037  | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Chromium, Total             | ND             |             | mg/L         | 0.028         | 0.010   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Lead, Total                 | 0.046          |             | mg/L         | 0.033         | 0.011   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Mercury, Total              | ND             |             | mg/L         | 0.0020        | 0.00066 | SW846 7470A   | 5/8/19 11:11 MSA | 5/8/19 14:37  | MSA             | A                     |
| Selenium, Total             | ND             |             | mg/L         | 0.11          | 0.037   | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| Silver, Total               | ND             |             | mg/L         | 0.022         | 0.0070  | SW846 6010C   | 5/8/19 13:25 AHI | 5/9/19 10:09  | SRT             | A1                    |
| <b>TCLP SEMI-VOLATILES</b>  |                |             |              |               |         |               |                  |               |                 |                       |
| mp-Cresol                   | ND             |             | ug/L         | 60.0          | 3.2     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| o-Cresol                    | ND             |             | ug/L         | 60.0          | 5.0     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 1,4-Dichlorobenzene         | ND             |             | ug/L         | 60.0          | 3.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 2,4-Dinitrotoluene          | ND             |             | ug/L         | 60.0          | 2.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Hexachlorobenzene           | ND             |             | ug/L         | 60.0          | 4.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Hexachlorobutadiene         | ND             |             | ug/L         | 60.0          | 3.8     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Hexachloroethane            | ND             |             | ug/L         | 60.0          | 6.0     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Nitrobenzene                | ND             |             | ug/L         | 60.0          | 5.6     | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Pentachlorophenol           | ND             |             | ug/L         | 120           | 24.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Pyridine                    | ND             |             | ug/L         | 60.0          | 14.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 2,4,5-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.0    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 2,4,6-Trichlorophenol       | ND             |             | ug/L         | 60.0          | 11.4    | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |         | <i>Method</i> | <i>Prepared</i>  | <i>By</i>     | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 2,4,6-Tribromophenol (S)    | 86.3           |             | %            | 47 - 128      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 2-Fluorobiphenyl (S)        | 78.3           |             | %            | 52 - 118      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| 2-Fluorophenol (S)          | 50             |             | %            | 20 - 87       |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Nitrobenzene-d5 (S)         | 74             |             | %            | 27 - 139      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Phenol-d5 (S)               | 30.1           |             | %            | 10 - 81       |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |
| Terphenyl-d14 (S)           | 90.2           |             | %            | 46 - 133      |         | SW846 8270D   | 5/8/19 15:00 DXL | 5/9/19 02:02  | DHF             | A                     |



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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021**  
Sample ID: **TB-042519-5**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 6.4J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Bromomethane                | 0.51J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| tert-Butyl Alcohol          | 2.5J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021**  
Sample ID: **TB-042519-5**

Date Collected: 4/25/2019 21:00 Matrix: Water  
Date Received: 4/25/2019 21:00

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 00:54 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

Lab ID: **3029976021**  
 Sample ID: **TB-042519-5**

Date Collected: 4/25/2019 21:00 Matrix: Water  
 Date Received: 4/25/2019 21:00

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/3/19 00:54 | PDK          | A    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/3/19 00:54 | PDK          | A    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 116     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/3/19 00:54 | PDK  | A    |
| 4-Bromofluorobenzene (S)  | 107     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/3/19 00:54 | PDK  | A    |
| Dibromofluoromethane (S)  | 105     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/3/19 00:54 | PDK  | A    |
| Toluene-d8 (S)            | 103     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/3/19 00:54 | PDK  | A    |



Mrs. Vanessa N Badman  
 Project Coordinator

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### ANALYTICAL RESULTS

Workorder: 3029976 LMC MRC / 95840ACM

**PARAMETER QUALIFIERS**

| Lab ID   | # | Sample ID         | Analytical Method | Analyte                  |
|--|---|-------------------|-------------------|--------------------------|
| <b>3029976001</b>  | 1 | MRC-SW8A-S-042419 | SW846 8260B       | Naphthalene              |
| The QC sample type MS for method SW846 8260B was outside the control limits for the analyte Naphthalene. The % Recovery was reported as 51 and the control limits were 56 to 134.  |   |                   |                   |                          |
| <b>3029976001</b>  | 2 | MRC-SW8A-S-042419 | SW846 8260B       | Naphthalene              |
| The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte Naphthalene. The % Recovery was reported as 51.5 and the control limits were 56 to 134.   |   |                   |                   |                          |
| <b>3029976004</b>  | 1 | MRC-SW8B-S-042419 | SW846 8260B       | 2-Chloroethylvinyl ether |
| The QC sample type MS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .4 and the control limits were 1 to 150.  |   |                   |                   |                          |
| <b>3029976004</b>  | 2 | MRC-SW8B-S-042419 | SW846 8260B       | 2-Chloroethylvinyl ether |
| The QC sample type MSD for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as .38 and the control limits were 1 to 150.  |   |                   |                   |                          |
| <b>3029976017</b>  | 1 | F001-IDW-TUBE     | SW846 1030        | Ignitability             |
| According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)  |   |                   |                   |                          |
| <b>3029976018</b>  | 1 | F001-IDW-GLOVES   | SW846 1030        | Ignitability             |
| The sample burn rate, performed in triplicate and averaged, was determined to be 7.41 mm/sec. According to SW-846 Method 1030 this sample does burn vigorously enough to create a hazard. In order to be considered ignitable under 40 CFR 261.21, however, a solid must also be capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes. This sample did not exhibit these characteristics so according to 40 CFR 261.21 would not be considered to exhibit the characteristic of ignitability. |   |                   |                   |                          |
| <b>3029976019</b>  | 1 | F001-IDW-PAPER    | SW846 1030        | Ignitability             |
| According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)  |   |                   |                   |                          |
| <b>3029976020</b>  | 1 | F001-IDW-STRING   | SW846 1030        | Ignitability             |
| According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21)  |   |                   |                   |                          |
| <b>3029976020</b>  | 2 | F001-IDW-STRING   | SW846 8082A       | Decachlorobiphenyl       |
| The surrogate Decachlorobiphenyl for method SW846 8082A was outside of control limits. The % Recovery was reported as 119 and the control limits were 49 to 115. This result was reported at a dilution of 1.  |   |                   |                   |                          |

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID             | Analysis Method | Prep Method  |
|------------|-----------------------|-----------------|--------------|
| 3029976001 | MRC-SW8A-S-042419     | 8270 SIM        | SW846 3510C  |
| 3029976001 | MRC-SW8A-S-042419     | SW846 8260B     |              |
| 3029976001 | MRC-SW8A-S-042419     | Subcontract     |              |
| 3029976002 | TB-042519-1           | SW846 8260B     |              |
| 3029976003 | MRC-SW8A-S-DUP-042419 | 8270 SIM        | SW846 3510C  |
| 3029976003 | MRC-SW8A-S-DUP-042419 | SW846 8260B     |              |
| 3029976003 | MRC-SW8A-S-DUP-042419 | Subcontract     |              |
| 3029976004 | MRC-SW8B-S-042419     | 8270 SIM        | SW846 3510C  |
| 3029976004 | MRC-SW8B-S-042419     | SW846 8260B     |              |
| 3029976004 | MRC-SW8B-S-042419     | Subcontract     |              |
| 3029976005 | TB-042519-2           | SW846 8260B     |              |
| 3029976006 | MRC-SW20-042519       | Subcontract     |              |
| 3029976007 | FB-052519-ZN          | 8270 SIM        | SW846 3510C  |
| 3029976007 | FB-052519-ZN          | SW846 8260B     |              |
| 3029976007 | FB-052519-ZN          | Subcontract     |              |
| 3029976008 | MRC-SW7A-S-042519-A   | SW846 8260B     |              |
| 3029976008 | MRC-SW7A-S-042519-A   | Subcontract     |              |
| 3029976009 | MRC-SW7B-S-042519     | SW846 8260B     |              |
| 3029976009 | MRC-SW7B-S-042519     | Subcontract     |              |
| 3029976010 | MRC-SW9A-S-042519     | SW846 8260B     |              |
| 3029976010 | MRC-SW9A-S-042519     | Subcontract     |              |
| 3029976011 | TB-042519-3           | SW846 8260B     |              |
| 3029976012 | MRC-SW9B-S-042519     | SW846 8260B     |              |
| 3029976012 | MRC-SW9B-S-042519     | Subcontract     |              |
| 3029976013 | MRC-SW6B-S-042519     | 8270 SIM        | SW846 3510C  |
| 3029976013 | MRC-SW6B-S-042519     | SW846 8260B     |              |
| 3029976013 | MRC-SW6B-S-042519     | Subcontract     |              |
| 3029976014 | MRC-SW6A-S-042519     | 8270 SIM        | SW846 3510C  |
| 3029976014 | MRC-SW6A-S-042519     | SW846 8260B     |              |
| 3029976014 | MRC-SW6A-S-042519     | Subcontract     |              |
| 3029976015 | TB-042519-4           | SW846 8260B     |              |
| 3029976016 | MRC-W17A-042519       | 8270 SIM        | SW846 3510C  |
| 3029976016 | MRC-W17A-042519       | SW846 8260B     |              |
| 3029976017 | F001-IDW-TUBE         | S2540G-11       |              |
| 3029976017 | F001-IDW-TUBE         | SW-846 7.3CN    | SW-846 7.3CN |
| 3029976017 | F001-IDW-TUBE         | SW846 1030      |              |
| 3029976017 | F001-IDW-TUBE         | SW846 6010C     | SW846 3015   |
| 3029976017 | F001-IDW-TUBE         | SW846 7.3       | SW846 7.3    |
| 3029976017 | F001-IDW-TUBE         | SW846 7470A     | SW846 7470A  |
| 3029976017 | F001-IDW-TUBE         | SW846 8082A     | SW846 3546   |
| 3029976017 | F001-IDW-TUBE         | SW846 8260C     |              |
| 3029976017 | F001-IDW-TUBE         | SW846 8270D     | SW846 3510C  |
| 3029976018 | F001-IDW-GLOVES       | S2540G-11       |              |
| 3029976018 | F001-IDW-GLOVES       | SW-846 7.3CN    | SW-846 7.3CN |
| 3029976018 | F001-IDW-GLOVES       | SW846 1030      |              |
| 3029976018 | F001-IDW-GLOVES       | SW846 6010C     | SW846 3015   |

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID       | Analysis Method | Prep Method  |
|------------|-----------------|-----------------|--------------|
| 3029976018 | F001-IDW-GLOVES | SW846 7.3       | SW846 7.3    |
| 3029976018 | F001-IDW-GLOVES | SW846 7470A     | SW846 7470A  |
| 3029976018 | F001-IDW-GLOVES | SW846 8082A     | SW846 3546   |
| 3029976018 | F001-IDW-GLOVES | SW846 8260C     |              |
| 3029976018 | F001-IDW-GLOVES | SW846 8270D     | SW846 3510C  |
| 3029976019 | F001-IDW-PAPER  | S2540G-11       |              |
| 3029976019 | F001-IDW-PAPER  | SW-846 7.3CN    | SW-846 7.3CN |
| 3029976019 | F001-IDW-PAPER  | SW846 1030      |              |
| 3029976019 | F001-IDW-PAPER  | SW846 6010C     | SW846 3015   |
| 3029976019 | F001-IDW-PAPER  | SW846 7.3       | SW846 7.3    |
| 3029976019 | F001-IDW-PAPER  | SW846 7470A     | SW846 7470A  |
| 3029976019 | F001-IDW-PAPER  | SW846 8082A     | SW846 3546   |
| 3029976019 | F001-IDW-PAPER  | SW846 8260C     |              |
| 3029976019 | F001-IDW-PAPER  | SW846 8270D     | SW846 3510C  |
| 3029976020 | F001-IDW-STRING | S2540G-11       |              |
| 3029976020 | F001-IDW-STRING | SW-846 7.3CN    | SW-846 7.3CN |
| 3029976020 | F001-IDW-STRING | SW846 1030      |              |
| 3029976020 | F001-IDW-STRING | SW846 6010C     | SW846 3015   |
| 3029976020 | F001-IDW-STRING | SW846 7.3       | SW846 7.3    |
| 3029976020 | F001-IDW-STRING | SW846 7470A     | SW846 7470A  |
| 3029976020 | F001-IDW-STRING | SW846 8082A     | SW846 3546   |
| 3029976020 | F001-IDW-STRING | SW846 8260C     |              |
| 3029976020 | F001-IDW-STRING | SW846 8270D     | SW846 3510C  |
| 3029976021 | TB-042519-5     | SW846 8260B     |              |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** EXTR/56256 **Analysis Method:** SW846 8082A

**QC Batch Method:** SW846 3546

**Associated Lab Samples:** 3029976017, 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2935620**

| Parameter                | Blank Result | Units | Reporting Limit |
|--------------------------|--------------|-------|-----------------|
| Aroclor-1016             | ND           | mg/kg | 0.033           |
| Aroclor-1221             | ND           | mg/kg | 0.033           |
| Aroclor-1232             | ND           | mg/kg | 0.033           |
| Aroclor-1242             | ND           | mg/kg | 0.033           |
| Aroclor-1248             | ND           | mg/kg | 0.033           |
| Aroclor-1254             | ND           | mg/kg | 0.033           |
| Aroclor-1260             | ND           | mg/kg | 0.033           |
| Aroclor-1262             | ND           | mg/kg | 0.033           |
| Aroclor-1268             | ND           | mg/kg | 0.033           |
| Decachlorobiphenyl (S)   |              |       |                 |
| Decachlorobiphenyl (S)   | 108          | %     | 49 - 115        |
| Tetrachloro-m-xylene (S) | 94.9         | %     | 27 - 137        |
| Tetrachloro-m-xylene (S) |              |       |                 |

**LABORATORY CONTROL SAMPLE: 2935621**

| Parameter                | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|--------------------------|-----------|-------|-------------|------------|-------------|
| Aroclor-1016             | 86.3      | mg/kg | .33         | 0.29       | 43 - 132    |
| Aroclor-1221             |           | mg/kg |             | ND         |             |
| Aroclor-1232             |           | mg/kg |             | ND         |             |
| Aroclor-1242             |           | mg/kg |             | ND         |             |
| Aroclor-1248             |           | mg/kg |             | ND         |             |
| Aroclor-1254             |           | mg/kg |             | ND         |             |
| Aroclor-1260             | 91.8      | mg/kg | .33         | 0.31       | 53 - 134    |
| Aroclor-1262             |           | mg/kg |             | ND         |             |
| Aroclor-1268             |           | mg/kg |             | ND         |             |
| Decachlorobiphenyl (S)   | 94        | %     |             |            | 49 - 115    |
| Decachlorobiphenyl (S)   |           |       |             |            |             |
| Tetrachloro-m-xylene (S) | 90.1      | %     |             |            | 27 - 137    |
| Tetrachloro-m-xylene (S) |           |       |             |            |             |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** EXTR/56278 **Analysis Method:** 8270 SIM

**QC Batch Method:** SW846 3510C

**Associated Lab Samples:** 3029976001, 3029976003, 3029976004, 3029976007, 3029976013, 3029976014, 3029976016

**METHOD BLANK: 2936867**

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| 1,4-Dioxane                 | ND           | ug/L  | 0.10            |
| 2-Methylnaphthalene-d10 (S) | 79.4         | %     | 29 - 112        |
| Fluoranthene-d10 (S)        | 93.2         | %     | 45 - 130        |

**LABORATORY CONTROL SAMPLE: 2936868**

| Parameter                   | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-----------------------------|-----------|-------|-------------|------------|-------------|
| 1,4-Dioxane                 | 52.9      | ug/L  | 1           | 0.53       | 22 - 75     |
| 2-Methylnaphthalene-d10 (S) | 85.9      | %     |             |            | 29 - 112    |
| Fluoranthene-d10 (S)        | 96        | %     |             |            | 45 - 130    |

**MATRIX SPIKE: 2936869 DUPLICATE: 2936870 ORIGINAL: 3029976001**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter                   | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|-----------------------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| 1,4-Dioxane                 | .0311           | ug/L  | 1.1         | .57132    | .55274     | 51.1     | 48        | 22 - 75     | 3.31 | 30      |
| 2-Methylnaphthalene-d10 (S) | 83.8            | %     |             |           |            | 83.8     | 82.2      | 29 - 112    |      |         |
| Fluoranthene-d10 (S)        | 93.1            | %     |             |           |            | 93.1     | 86.7      | 45 - 130    |      |         |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                      |      |   |          |
|----------------------|------|---|----------|
| 2-Fluorobiphenyl (S) | 78.7 | % | 52 - 118 |
| 2-Fluorophenol (S)   | 62   | % | 20 - 87  |
| Nitrobenzene-d5 (S)  | 88.6 | % | 27 - 139 |
| Phenol-d5 (S)        | 40.6 | % | 10 - 81  |
| Terphenyl-d14 (S)    | 90.5 | % | 46 - 133 |

MATRIX SPIKE: 2938634 DUPLICATE: 2938635 ORIGINAL: 3029915001

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter                | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|--------------------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| mp-Cresol                | 0               | ug/L  | 2000        | 1424.17   | 1097.74    | 71.2     | 54.9      | 28 - 128    | 25.9 | 20      |
| o-Cresol                 | 0               | ug/L  | 2000        | 1524.92   | 1194.86    | 76.2     | 59.7      | 34 - 136    | 24.3 | 23      |
| 1,4-Dichlorobenzene      | 0               | ug/L  | 1000        | 537.145   | 473.987    | 53.7     | 47.4      | 5 - 116     | 12.5 | 30      |
| 2,4-Dinitrotoluene       | 0               | ug/L  | 1000        | 916.083   | 697.253    | 91.6     | 69.7      | 49 - 138    | 27.1 | 22      |
| Hexachlorobenzene        | 0               | ug/L  | 1000        | 787.842   | 633.238    | 78.8     | 63.3      | 59 - 109    | 21.8 | 21      |
| Hexachlorobutadiene      | 0               | ug/L  | 1000        | 530.142   | 468.577    | 53       | 46.9      | 5 - 126     | 12.3 | 30      |
| Hexachloroethane         | 0               | ug/L  | 1000        | 477.402   | 431.9      | 47.7     | 43.2      | 5 - 111     | 10   | 30      |
| Nitrobenzene             | 0               | ug/L  | 1000        | 888.186   | 681.558    | 88.8     | 68.2      | 41 - 128    | 26.3 | 19      |
| Pentachlorophenol        | 0               | ug/L  | 2000        | 1932.11   | 1488.27    | 96.6     | 74.4      | 41 - 149    | 26   | 28      |
| Pyridine                 | 0               | ug/L  | 1000        | 580.345   | 469.395    | 58       | 46.9      | 5 - 115     | 21.1 | 30      |
| 2,4,5-Trichlorophenol    | 0               | ug/L  | 2000        | 1692.98   | 1301.42    | 84.6     | 65.1      | 44 - 148    | 26.2 | 23      |
| 2,4,6-Trichlorophenol    | 0               | ug/L  | 2000        | 1659.43   | 1276.15    | 83       | 63.8      | 41 - 148    | 26.1 | 23      |
| 2,4,6-Tribromophenol (S) | 82.4            | %     |             |           |            | 82.4     | 66.1      | 47 - 128    |      |         |
| 2-Fluorobiphenyl (S)     | 72.3            | %     |             |           |            | 72.3     | 58        | 52 - 118    |      |         |
| 2-Fluorophenol (S)       | 57.7            | %     |             |           |            | 57.7     | 39.6      | 20 - 87     |      |         |
| Nitrobenzene-d5 (S)      | 82              | %     |             |           |            | 82       | 64.7      | 27 - 139    |      |         |
| Phenol-d5 (S)            | 40.4            | %     |             |           |            | 40.4     | 29.7      | 10 - 81     |      |         |
| Terphenyl-d14 (S)        | 78.9            | %     |             |           |            | 78.9     | 62.9      | 46 - 133    |      |         |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** EXTR/56364 **Analysis Method:** SW846 8270D

**QC Batch Method:** SW846 3510C

**Associated Lab Samples:** 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2941395**

| Parameter                | Blank Result | Units | Reporting Limit |
|--------------------------|--------------|-------|-----------------|
| mp-Cresol                | ND           | ug/L  | 3.0             |
| o-Cresol                 | ND           | ug/L  | 3.0             |
| 1,4-Dichlorobenzene      | ND           | ug/L  | 3.0             |
| 2,4-Dinitrotoluene       | ND           | ug/L  | 3.0             |
| Hexachlorobenzene        | ND           | ug/L  | 3.0             |
| Hexachlorobutadiene      | ND           | ug/L  | 3.0             |
| Hexachloroethane         | ND           | ug/L  | 3.0             |
| Nitrobenzene             | ND           | ug/L  | 3.0             |
| Pentachlorophenol        | ND           | ug/L  | 6.0             |
| Pyridine                 | ND           | ug/L  | 3.0             |
| 2,4,5-Trichlorophenol    | ND           | ug/L  | 3.0             |
| 2,4,6-Trichlorophenol    | ND           | ug/L  | 3.0             |
| 2,4,6-Tribromophenol (S) | 78.8         | %     | 47 - 128        |
| 2-Fluorobiphenyl (S)     | 79           | %     | 52 - 118        |
| 2-Fluorophenol (S)       | 51.4         | %     | 20 - 87         |
| Nitrobenzene-d5 (S)      | 78.6         | %     | 27 - 139        |
| Phenol-d5 (S)            | 30.3         | %     | 10 - 81         |
| Terphenyl-d14 (S)        | 77.1         | %     | 46 - 133        |

**LABORATORY CONTROL SAMPLE: 2941396**

| Parameter                | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|--------------------------|-----------|-------|-------------|------------|-------------|
| mp-Cresol                | 64.7      | ug/L  | 100         | 64.7       | 28 - 128    |
| o-Cresol                 | 69.8      | ug/L  | 100         | 69.8       | 34 - 136    |
| 1,4-Dichlorobenzene      | 52.3      | ug/L  | 50          | 26.2       | 5 - 116     |
| 2,4-Dinitrotoluene       | 95.4      | ug/L  | 50          | 47.7       | 49 - 138    |
| Hexachlorobenzene        | 88.9      | ug/L  | 50          | 44.5       | 59 - 109    |
| Hexachlorobutadiene      | 57.1      | ug/L  | 50          | 28.6       | 5 - 126     |
| Hexachloroethane         | 49.3      | ug/L  | 50          | 24.6       | 5 - 111     |
| Nitrobenzene             | 79.7      | ug/L  | 50          | 39.8       | 41 - 128    |
| Pentachlorophenol        | 86.4      | ug/L  | 100         | 86.4       | 41 - 149    |
| Pyridine                 | 47.1      | ug/L  | 50          | 23.6       | 5 - 115     |
| 2,4,5-Trichlorophenol    | 87        | ug/L  | 100         | 87.0       | 44 - 148    |
| 2,4,6-Trichlorophenol    | 85.1      | ug/L  | 100         | 85.1       | 41 - 148    |
| 2,4,6-Tribromophenol (S) | 88.2      | %     |             |            | 47 - 128    |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                      |      |   |          |
|----------------------|------|---|----------|
| 2-Fluorobiphenyl (S) | 78.6 | % | 52 - 118 |
| 2-Fluorophenol (S)   | 51.2 | % | 20 - 87  |
| Nitrobenzene-d5 (S)  | 75.6 | % | 27 - 139 |
| Phenol-d5 (S)        | 31.8 | % | 10 - 81  |
| Terphenyl-d14 (S)    | 89.5 | % | 46 - 133 |

MATRIX SPIKE: 2941397 DUPLICATE: 2941398 ORIGINAL: 3031175001

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter                | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|--------------------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| mp-Cresol                | 0               | ug/L  | 2000        | 1246.45   | 1307.96    | 62.3     | 65.4      | 28 - 128    | 4.82 | 20      |
| o-Cresol                 | 0               | ug/L  | 2000        | 1338.68   | 1434.8     | 66.9     | 71.7      | 34 - 136    | 6.93 | 23      |
| 1,4-Dichlorobenzene      | 0               | ug/L  | 1000        | 558.168   | 554.131    | 55.8     | 55.4      | 5 - 116     | .73  | 30      |
| 2,4-Dinitrotoluene       | 0               | ug/L  | 1000        | 928.505   | 979.463    | 92.9     | 97.9      | 49 - 138    | 5.34 | 22      |
| Hexachlorobenzene        | 0               | ug/L  | 1000        | 821.024   | 874.123    | 82.1     | 87.4      | 59 - 109    | 6.26 | 21      |
| Hexachlorobutadiene      | 0               | ug/L  | 1000        | 621.393   | 624.65     | 62.1     | 62.5      | 5 - 126     | .52  | 30      |
| Hexachloroethane         | 0               | ug/L  | 1000        | 504.246   | 527.849    | 50.4     | 52.8      | 5 - 111     | 4.57 | 30      |
| Nitrobenzene             | 0               | ug/L  | 1000        | 824.072   | 836.533    | 82.4     | 83.7      | 41 - 128    | 1.5  | 19      |
| Pentachlorophenol        | 0               | ug/L  | 2000        | 1698.2    | 1673.39    | 84.9     | 83.7      | 41 - 149    | 1.47 | 28      |
| Pyridine                 | 0               | ug/L  | 1000        | 488.156   | 531.336    | 48.8     | 53.1      | 5 - 115     | 8.47 | 30      |
| 2,4,5-Trichlorophenol    | 0               | ug/L  | 2000        | 1787.71   | 1823.76    | 89.4     | 91.2      | 44 - 148    | 2    | 23      |
| 2,4,6-Trichlorophenol    | 0               | ug/L  | 2000        | 1732.47   | 1763.07    | 86.6     | 88.2      | 41 - 148    | 1.75 | 23      |
| 2,4,6-Tribromophenol (S) | 84.5            | %     |             |           |            | 84.5     | 87.9      | 47 - 128    |      |         |
| 2-Fluorobiphenyl (S)     | 80.4            | %     |             |           |            | 80.4     | 83.2      | 52 - 118    |      |         |
| 2-Fluorophenol (S)       | 50.5            | %     |             |           |            | 50.5     | 53.4      | 20 - 87     |      |         |
| Nitrobenzene-d5 (S)      | 79.6            | %     |             |           |            | 79.6     | 80        | 27 - 139    |      |         |
| Phenol-d5 (S)            | 31.5            | %     |             |           |            | 31.5     | 33.1      | 10 - 81     |      |         |
| Terphenyl-d14 (S)        | 80.4            | %     |             |           |            | 80.4     | 87.6      | 46 - 133    |      |         |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** MDIG/77605 **Analysis Method:** SW846 7470A

**QC Batch Method:** SW846 7470A

**Associated Lab Samples:** 3029976017

**METHOD BLANK: 2939198**

| Parameter      | Blank Result | Units | Reporting Limit |
|----------------|--------------|-------|-----------------|
| Mercury, Total | ND           | mg/L  | 0.0020          |

**LABORATORY CONTROL SAMPLE: 2939199**

| Parameter      | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|----------------|-----------|-------|-------------|------------|-------------|
| Mercury, Total | 101       | mg/L  | .002        | 0.0020     | 85 - 115    |

**MATRIX SPIKE: 2939200 DUPLICATE: 2939201 ORIGINAL: 3030963001**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter      | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|----------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| Mercury, Total | .00032          | mg/L  | .005        | .00582    | .00594     | 110      | 112       | 70 - 130    | 2.04 | 20      |

**MATRIX SPIKE: 2939202 DUPLICATE: 2939203 ORIGINAL: 3030993001**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter      | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|----------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
| Mercury, Total | 0               | mg/L  | .005        | .00531    | .00531     | 106      | 106       | 70 - 130    | 0   | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** MDIG/77656 **Analysis Method:** SW846 7470A

**QC Batch Method:** SW846 7470A

**Associated Lab Samples:** 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2940986**

| Parameter      | Blank Result | Units | Reporting Limit |
|----------------|--------------|-------|-----------------|
| Mercury, Total | ND           | mg/L  | 0.0020          |

**LABORATORY CONTROL SAMPLE: 2940987**

| Parameter      | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|----------------|-----------|-------|-------------|------------|-------------|
| Mercury, Total | 103       | mg/L  | .002        | 0.0021     | 85 - 115    |

**MATRIX SPIKE: 2940990 DUPLICATE: 2940991 ORIGINAL: 3031132001**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter      | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|----------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
| Mercury, Total | .00003          | mg/L  | .005        | .00499    | .00503     | 99.3     | 100       | 70 - 130    | .8  | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** MDIG/77672 **Analysis Method:** SW846 6010C

**QC Batch Method:** SW846 3015

**Associated Lab Samples:** 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2941376**

| Parameter       | Blank Result | Units | Reporting Limit |
|-----------------|--------------|-------|-----------------|
| Arsenic, Total  | ND           | mg/L  | 0.028           |
| Barium, Total   | ND           | mg/L  | 0.56            |
| Cadmium, Total  | ND           | mg/L  | 0.0022          |
| Chromium, Total | ND           | mg/L  | 0.0056          |
| Lead, Total     | ND           | mg/L  | 0.0067          |
| Selenium, Total | ND           | mg/L  | 0.022           |
| Silver, Total   | ND           | mg/L  | 0.0044          |

**LABORATORY CONTROL SAMPLE: 2941377**

| Parameter       | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-----------------|-----------|-------|-------------|------------|-------------|
| Arsenic, Total  | 101       | mg/L  | .11         | 0.11       | 80 - 120    |
| Barium, Total   | 103       | mg/L  | 1.1         | 1.1        | 80 - 120    |
| Cadmium, Total  | 99.3      | mg/L  | .11         | 0.11       | 80 - 120    |
| Chromium, Total | 97.7      | mg/L  | .11         | 0.11       | 80 - 120    |
| Lead, Total     | 99        | mg/L  | .11         | 0.11       | 80 - 120    |
| Selenium, Total | 100       | mg/L  | 1.1         | 1.1        | 80 - 120    |
| Silver, Total   | 98.3      | mg/L  | .11         | 0.11       | 80 - 120    |

**MATRIX SPIKE: 2941378 DUPLICATE: 2941379 ORIGINAL: 3029976019**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter       | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|-----------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| Arsenic, Total  | 0               | mg/L  | .11         | .10833    | .11389     | 97.5     | 102       | 50 - 150    | 5    | 20      |
| Barium, Total   | .19889          | mg/L  | 1.1         | 1.36443   | 1.3661     | 105      | 105       | 50 - 150    | .12  | 20      |
| Cadmium, Total  | .00222          | mg/L  | .11         | .11889    | .11833     | 105      | 104       | 50 - 150    | .47  | 20      |
| Chromium, Total | 0               | mg/L  | .11         | .11389    | .115       | 102      | 103       | 50 - 150    | .97  | 20      |
| Lead, Total     | .00667          | mg/L  | .11         | .12278    | .11778     | 104      | 100       | 50 - 150    | 4.16 | 20      |
| Selenium, Total | .01389          | mg/L  | 1.1         | 1.19221   | 1.18832    | 106      | 106       | 50 - 150    | .33  | 20      |
| Silver, Total   | .00056          | mg/L  | .11         | .09778    | .09167     | 87.5     | 82        | 50 - 150    | 6.45 | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** VOMS/50703 **Analysis Method:** SW846 8260B

**QC Batch Method:** SW846 8260B

**Associated Lab Samples:** 3029976001, 3029976002, 3029976003

METHOD BLANK: 2938014

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | ND           | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | ND           | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | ND           | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | ND           | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | ND           | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |     |      |          |
|----------------------------|-----|------|----------|
| 1,3-Dichloropropane        | ND  | ug/L | 1.0      |
| 2,2-Dichloropropane        | ND  | ug/L | 1.0      |
| 1,2-Dichloropropane        | ND  | ug/L | 1.0      |
| cis-1,3-Dichloropropene    | ND  | ug/L | 1.0      |
| trans-1,3-Dichloropropene  | ND  | ug/L | 1.0      |
| 1,3-Dichloropropene, Total | ND  | ug/L | 2.0      |
| Diisopropyl ether          | ND  | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND  | ug/L | 1.0      |
| Ethylbenzene               | ND  | ug/L | 1.0      |
| Freon 113                  | ND  | ug/L | 1.0      |
| Hexachlorobutadiene        | ND  | ug/L | 5.0      |
| 2-Hexanone                 | ND  | ug/L | 5.0      |
| Isopropylbenzene           | ND  | ug/L | 1.0      |
| p-Isopropyltoluene         | ND  | ug/L | 1.0      |
| Methyl acetate             | ND  | ug/L | 2.0      |
| Methyl cyclohexane         | ND  | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND  | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND  | ug/L | 5.0      |
| Methylene Chloride         | ND  | ug/L | 1.0      |
| Naphthalene                | ND  | ug/L | 2.0      |
| n-Propylbenzene            | ND  | ug/L | 1.0      |
| Styrene                    | ND  | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| Tetrachloroethene          | ND  | ug/L | 1.0      |
| Toluene                    | ND  | ug/L | 1.0      |
| Total Xylenes              | ND  | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND  | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND  | ug/L | 1.0      |
| Trichloroethene            | ND  | ug/L | 1.0      |
| Trichlorofluoromethane     | ND  | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND  | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | ND  | ug/L | 1.0      |
| Vinyl Acetate              | ND  | ug/L | 5.0      |
| Vinyl Chloride             | ND  | ug/L | 1.0      |
| o-Xylene                   | ND  | ug/L | 1.0      |
| mp-Xylene                  | ND  | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 110 | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 107 | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 103 | %    | 78 - 116 |
| Toluene-d8 (S)             | 104 | %    | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938015

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 100          | ug/L  | 100            | 100           | 40 - 151       |
| tert-Amyl methyl ether      | 104          | ug/L  | 20             | 20.8          | 75 - 121       |
| Benzene                     | 104          | ug/L  | 20             | 20.8          | 80 - 124       |
| Bromobenzene                | 100          | ug/L  | 20             | 20.1          | 81 - 119       |
| Bromochloromethane          | 97.8         | ug/L  | 20             | 19.6          | 73 - 117       |
| Bromodichloromethane        | 102          | ug/L  | 20             | 20.4          | 79 - 126       |
| Bromoform                   | 96.5         | ug/L  | 20             | 19.3          | 70 - 123       |
| Bromomethane                | 98.2         | ug/L  | 20             | 19.6          | 45 - 148       |
| 2-Butanone                  | 102          | ug/L  | 100            | 102           | 50 - 152       |
| tert-Butyl Alcohol          | 135          | ug/L  | 100            | 135           | 17 - 168       |
| n-Butylbenzene              | 112          | ug/L  | 20             | 22.4          | 71 - 130       |
| tert-Butylbenzene           | 105          | ug/L  | 20             | 20.9          | 72 - 124       |
| sec-Butylbenzene            | 116          | ug/L  | 20             | 23.2          | 72 - 127       |
| Carbon Disulfide            | 101          | ug/L  | 20             | 20.3          | 57 - 131       |
| Carbon Tetrachloride        | 105          | ug/L  | 20             | 21.1          | 62 - 132       |
| Chlorobenzene               | 96.1         | ug/L  | 20             | 19.2          | 85 - 117       |
| Chlorodibromomethane        | 97.4         | ug/L  | 20             | 19.5          | 77 - 122       |
| Chloroethane                | 92.1         | ug/L  | 20             | 18.4          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 71.3         | ug/L  | 20             | 14.3          | 1 - 150        |
| Chloroform                  | 98.4         | ug/L  | 20             | 19.7          | 78 - 122       |
| Chloromethane               | 88           | ug/L  | 20             | 17.6          | 38 - 156       |
| o-Chlorotoluene             | 104          | ug/L  | 20             | 20.9          | 78 - 126       |
| p-Chlorotoluene             | 106          | ug/L  | 20             | 21.2          | 78 - 125       |
| Cyclohexane                 | 106          | ug/L  | 20             | 21.1          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 89.1         | ug/L  | 20             | 17.8          | 59 - 133       |
| 1,2-Dibromoethane           | 101          | ug/L  | 20             | 20.1          | 80 - 124       |
| Dibromomethane              | 98.2         | ug/L  | 20             | 19.6          | 81 - 125       |
| 1,2-Dichlorobenzene         | 104          | ug/L  | 20             | 20.8          | 82 - 118       |
| 1,3-Dichlorobenzene         | 101          | ug/L  | 20             | 20.1          | 81 - 118       |
| 1,4-Dichlorobenzene         | 99           | ug/L  | 20             | 19.8          | 81 - 116       |
| Dichlorodifluoromethane     | 83.2         | ug/L  | 20             | 16.6          | 17 - 166       |
| 1,1-Dichloroethane          | 98.8         | ug/L  | 20             | 19.8          | 78 - 124       |
| 1,2-Dichloroethane          | 100          | ug/L  | 20             | 20.1          | 70 - 133       |
| 1,1-Dichloroethene          | 106          | ug/L  | 20             | 21.2          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 103          | ug/L  | 40             | 41.2          | 78 - 125       |
| cis-1,2-Dichloroethene      | 98.9         | ug/L  | 20             | 19.8          | 78 - 125       |
| trans-1,2-Dichloroethene    | 107          | ug/L  | 20             | 21.4          | 71 - 122       |
| 1,3-Dichloropropane         | 97.4         | ug/L  | 20             | 19.5          | 82 - 126       |
| 2,2-Dichloropropane         | 112          | ug/L  | 20             | 22.3          | 64 - 129       |
| 1,2-Dichloropropane         | 99           | ug/L  | 20             | 19.8          | 81 - 127       |
| cis-1,3-Dichloropropene     | 100          | ug/L  | 20             | 20.0          | 81 - 121       |
| trans-1,3-Dichloropropene   | 100          | ug/L  | 20             | 20.0          | 78 - 126       |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropene, Total | 100  | ug/L | 40  | 40.1 | 80 - 123 |
| Diisopropyl ether          | 102  | ug/L | 20  | 20.4 | 74 - 131 |
| Ethyl tert-butyl ether     | 100  | ug/L | 20  | 20.1 | 75 - 123 |
| Ethylbenzene               | 99.7 | ug/L | 20  | 19.9 | 80 - 124 |
| Freon 113                  | 101  | ug/L | 20  | 20.2 | 50 - 130 |
| Hexachlorobutadiene        | 114  | ug/L | 20  | 22.8 | 55 - 128 |
| 2-Hexanone                 | 104  | ug/L | 100 | 104  | 65 - 154 |
| Isopropylbenzene           | 112  | ug/L | 20  | 22.5 | 73 - 129 |
| p-Isopropyltoluene         | 116  | ug/L | 20  | 23.2 | 72 - 123 |
| Methyl acetate             | 98.1 | ug/L | 20  | 19.6 | 70 - 130 |
| Methyl cyclohexane         | 104  | ug/L | 20  | 20.8 | 70 - 130 |
| Methyl t-Butyl Ether       | 100  | ug/L | 20  | 20.0 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 103  | ug/L | 100 | 103  | 71 - 146 |
| Methylene Chloride         | 103  | ug/L | 20  | 20.6 | 76 - 121 |
| Naphthalene                | 76.4 | ug/L | 20  | 15.3 | 56 - 134 |
| n-Propylbenzene            | 109  | ug/L | 20  | 21.8 | 74 - 122 |
| Styrene                    | 108  | ug/L | 20  | 21.7 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 102  | ug/L | 20  | 20.4 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 99.6 | ug/L | 20  | 19.9 | 74 - 135 |
| Tetrachloroethene          | 100  | ug/L | 20  | 20.1 | 72 - 124 |
| Toluene                    | 101  | ug/L | 20  | 20.2 | 80 - 125 |
| Total Xylenes              | 103  | ug/L | 60  | 61.5 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 88.5 | ug/L | 20  | 17.7 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 93.3 | ug/L | 20  | 18.7 | 67 - 123 |
| 1,1,1-Trichloroethane      | 102  | ug/L | 20  | 20.5 | 66 - 130 |
| 1,1,2-Trichloroethane      | 94.1 | ug/L | 20  | 18.8 | 82 - 126 |
| Trichloroethene            | 96.3 | ug/L | 20  | 19.3 | 77 - 124 |
| Trichlorofluoromethane     | 102  | ug/L | 20  | 20.3 | 38 - 123 |
| 1,2,3-Trichloropropane     | 101  | ug/L | 20  | 20.3 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 110  | ug/L | 20  | 21.9 | 76 - 125 |
| Vinyl Acetate              | 97.8 | ug/L | 20  | 19.6 | 58 - 136 |
| Vinyl Chloride             | 96.9 | ug/L | 20  | 19.4 | 27 - 138 |
| o-Xylene                   | 102  | ug/L | 20  | 20.4 | 79 - 124 |
| mp-Xylene                  | 103  | ug/L | 40  | 41.1 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 103  | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 105  | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 102  | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 99.9 | %    |     |      | 76 - 127 |

MATRIX SPIKE: 2938104 DUPLICATE: 2938105 ORIGINAL: 3029976001

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                             |        |      |     |         |         |      |      |          |      |    |
|-----------------------------|--------|------|-----|---------|---------|------|------|----------|------|----|
| Acetone                     | 5.0828 | ug/L | 100 | 91.4748 | 82.1447 | 86.4 | 77.1 | 40 - 151 | 10.7 | 40 |
| tert-Amyl methyl ether      | 0      | ug/L | 20  | 20.1538 | 20.767  | 101  | 104  | 75 - 121 | 3    | 40 |
| Benzene                     | 0      | ug/L | 20  | 23.3418 | 22.5691 | 117  | 113  | 80 - 124 | 3.37 | 26 |
| Bromobenzene                | 0      | ug/L | 20  | 21.609  | 21.2052 | 108  | 106  | 81 - 119 | 1.89 | 17 |
| Bromochloromethane          | 0      | ug/L | 20  | 21.108  | 20.7692 | 106  | 104  | 73 - 117 | 1.62 | 19 |
| Bromodichloromethane        | 0      | ug/L | 20  | 22.2924 | 21.7566 | 111  | 109  | 79 - 126 | 2.43 | 16 |
| Bromoform                   | 0      | ug/L | 20  | 18.2241 | 16.977  | 91.1 | 84.9 | 70 - 123 | 7.09 | 16 |
| Bromomethane                | 0      | ug/L | 20  | 23.9259 | 21.897  | 120  | 109  | 45 - 148 | 8.86 | 26 |
| 2-Butanone                  | 0      | ug/L | 100 | 89.6086 | 84.0846 | 89.6 | 84.1 | 50 - 152 | 6.36 | 16 |
| tert-Butyl Alcohol          | 0      | ug/L | 100 | 84.2732 | 72.1916 | 84.3 | 72.2 | 17 - 168 | 15.4 | 40 |
| n-Butylbenzene              | 0      | ug/L | 20  | 22.4732 | 23.1235 | 112  | 116  | 71 - 130 | 2.85 | 20 |
| tert-Butylbenzene           | 0      | ug/L | 20  | 22.6805 | 22.523  | 113  | 113  | 72 - 124 | .7   | 17 |
| sec-Butylbenzene            | 0      | ug/L | 20  | 24.3819 | 24.3023 | 122  | 122  | 72 - 127 | .33  | 17 |
| Carbon Disulfide            | 0      | ug/L | 20  | 23.2295 | 21.256  | 116  | 106  | 57 - 131 | 8.87 | 28 |
| Carbon Tetrachloride        | 0      | ug/L | 20  | 23.4807 | 22.9014 | 117  | 115  | 62 - 132 | 2.5  | 17 |
| Chlorobenzene               | 0      | ug/L | 20  | 20.8247 | 20.6462 | 104  | 103  | 85 - 117 | .86  | 15 |
| Chlorodibromomethane        | 0      | ug/L | 20  | 19.9631 | 19.1913 | 99.8 | 96   | 77 - 122 | 3.94 | 15 |
| Chloroethane                | 0      | ug/L | 20  | 22.3401 | 21.4333 | 112  | 107  | 51 - 142 | 4.14 | 24 |
| 2-Chloroethylvinyl ether    | 0      | ug/L | 20  | .30687  | .37446  | 1.53 | 1.87 | 1 - 150  | 19.8 | 40 |
| Chloroform                  | 0      | ug/L | 20  | 22.0706 | 21.8581 | 110  | 109  | 78 - 122 | .97  | 16 |
| Chloromethane               | 0      | ug/L | 20  | 21.0374 | 20.3035 | 105  | 102  | 38 - 156 | 3.55 | 27 |
| o-Chlorotoluene             | 0      | ug/L | 20  | 22.7719 | 22.1321 | 114  | 111  | 78 - 126 | 2.85 | 17 |
| p-Chlorotoluene             | 0      | ug/L | 20  | 22.9684 | 22.3858 | 115  | 112  | 78 - 125 | 2.57 | 16 |
| Cyclohexane                 | 0      | ug/L | 20  | 23.5237 | 23.0976 | 118  | 115  | 66 - 130 | 1.83 | 20 |
| 1,2-Dibromo-3-chloropropane | 0      | ug/L | 20  | 15.3248 | 13.984  | 76.6 | 69.9 | 59 - 133 | 9.15 | 26 |
| 1,2-Dibromoethane           | 0      | ug/L | 20  | 19.8197 | 19.2022 | 99.1 | 96   | 80 - 124 | 3.16 | 19 |
| Dibromomethane              | 0      | ug/L | 20  | 20.651  | 20.0147 | 103  | 100  | 81 - 125 | 3.13 | 16 |
| 1,2-Dichlorobenzene         | 0      | ug/L | 20  | 21.7063 | 21.3172 | 109  | 107  | 82 - 118 | 1.81 | 15 |
| 1,3-Dichlorobenzene         | 0      | ug/L | 20  | 21.4646 | 21.0524 | 107  | 105  | 81 - 118 | 1.94 | 16 |
| 1,4-Dichlorobenzene         | 0      | ug/L | 20  | 21.1112 | 20.8058 | 106  | 104  | 81 - 116 | 1.46 | 15 |
| Dichlorodifluoromethane     | 0      | ug/L | 20  | 19.8231 | 19.328  | 99.1 | 96.6 | 17 - 166 | 2.53 | 24 |
| 1,1-Dichloroethane          | 0      | ug/L | 20  | 22.5354 | 22.0523 | 113  | 110  | 78 - 124 | 2.17 | 15 |
| 1,2-Dichloroethane          | 0      | ug/L | 20  | 21.4677 | 21.0428 | 107  | 105  | 70 - 133 | 2    | 19 |
| 1,1-Dichloroethene          | 0      | ug/L | 20  | 23.982  | 23.1469 | 120  | 116  | 63 - 128 | 3.54 | 21 |
| 1,2-Dichloroethene, Total   | 0      | ug/L | 40  | 45.3265 | 43.9267 | 113  | 110  | 78 - 125 | 3.14 | 40 |
| cis-1,2-Dichloroethene      | 0      | ug/L | 20  | 22.215  | 21.6555 | 111  | 108  | 78 - 125 | 2.55 | 21 |
| trans-1,2-Dichloroethene    | 0      | ug/L | 20  | 23.1115 | 22.2712 | 116  | 111  | 71 - 122 | 3.7  | 22 |
| 1,3-Dichloropropane         | 0      | ug/L | 20  | 19.9385 | 19.5217 | 99.7 | 97.6 | 82 - 126 | 2.11 | 15 |
| 2,2-Dichloropropane         | 0      | ug/L | 20  | 23.4013 | 22.6072 | 117  | 113  | 64 - 129 | 3.45 | 18 |
| 1,2-Dichloropropane         | 0      | ug/L | 20  | 22.2552 | 21.8824 | 111  | 109  | 81 - 127 | 1.69 | 15 |
| cis-1,3-Dichloropropene     | 0      | ug/L | 20  | 20.4726 | 20.4174 | 102  | 102  | 81 - 121 | .27  | 16 |
| trans-1,3-Dichloropropene   | 0      | ug/L | 20  | 20.1633 | 19.9509 | 101  | 99.8 | 78 - 126 | 1.06 | 18 |
| 1,3-Dichloropropene, Total  | 0      | ug/L | 40  | 40.6359 | 40.3683 | 102  | 101  | 80 - 123 | .66  | 16 |
| Diisopropyl ether           | 0      | ug/L | 20  | 22.5496 | 22.1191 | 113  | 111  | 74 - 131 | 1.93 | 15 |
| Ethyl tert-butyl ether      | 0      | ug/L | 20  | 21.4685 | 21.1619 | 107  | 106  | 75 - 123 | 1.44 | 16 |
| Ethylbenzene                | 0      | ug/L | 20  | 21.5287 | 21.377  | 108  | 107  | 80 - 124 | .71  | 19 |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |      |      |     |         |         |      |       |          |      |    |
|----------------------------|------|------|-----|---------|---------|------|-------|----------|------|----|
| Freon 113                  | 0    | ug/L | 20  | 22.4471 | 21.7778 | 112  | 109   | 50 - 130 | 3.03 | 26 |
| Hexachlorobutadiene        | 0    | ug/L | 20  | 22.0768 | 21.0351 | 110  | 105   | 55 - 128 | 4.83 | 35 |
| 2-Hexanone                 | 0    | ug/L | 100 | 92.0164 | 88.0148 | 92   | 88    | 65 - 154 | 4.45 | 17 |
| Isopropylbenzene           | 0    | ug/L | 20  | 24.1359 | 23.7799 | 121  | 119   | 73 - 129 | 1.49 | 18 |
| p-Isopropyltoluene         | 0    | ug/L | 20  | 23.6179 | 23.9401 | 118  | 120   | 72 - 123 | 1.35 | 17 |
| Methyl acetate             | 0    | ug/L | 20  | 15.3432 | 14.6527 | 76.7 | 73.3  | 70 - 130 | 4.6  | 18 |
| Methyl cyclohexane         | 0    | ug/L | 20  | 22.0891 | 22.0563 | 110  | 110   | 70 - 130 | .15  | 18 |
| Methyl t-Butyl Ether       | 0    | ug/L | 20  | 20.8146 | 20.2068 | 104  | 101   | 69 - 115 | 2.96 | 20 |
| 4-Methyl-2-Pentanone(MIBK) | 0    | ug/L | 100 | 93.0423 | 90.5492 | 93   | 90.5  | 71 - 146 | 2.72 | 16 |
| Methylene Chloride         | 0    | ug/L | 20  | 23.1207 | 22.5159 | 116  | 113   | 76 - 121 | 2.65 | 17 |
| Naphthalene                | 0    | ug/L | 20  | 10.2047 | 10.3084 | 51*  | 51.5* | 56 - 134 | 1.01 | 40 |
| n-Propylbenzene            | 0    | ug/L | 20  | 23.1383 | 23.3306 | 116  | 117   | 74 - 122 | .83  | 20 |
| Styrene                    | 0    | ug/L | 20  | 23.3288 | 22.7505 | 117  | 114   | 79 - 123 | 2.51 | 16 |
| 1,1,1,2-Tetrachloroethane  | 0    | ug/L | 20  | 21.4185 | 21.2828 | 107  | 106   | 78 - 121 | .64  | 16 |
| 1,1,2,2-Tetrachloroethane  | 0    | ug/L | 20  | 19.4116 | 18.6817 | 97.1 | 93.4  | 74 - 135 | 3.83 | 16 |
| Tetrachloroethene          | 0    | ug/L | 20  | 20.7974 | 20.6021 | 104  | 103   | 72 - 124 | .94  | 38 |
| Toluene                    | 0    | ug/L | 20  | 22.0026 | 21.7139 | 110  | 109   | 80 - 125 | 1.32 | 20 |
| Total Xylenes              | 0    | ug/L | 60  | 66.435  | 65.857  | 111  | 110   | 79 - 125 | .87  | 35 |
| 1,2,3-Trichlorobenzene     | 0    | ug/L | 20  | 13.0604 | 13.7713 | 65.3 | 68.9  | 61 - 126 | 5.3  | 36 |
| 1,2,4-Trichlorobenzene     | 0    | ug/L | 20  | 15.9388 | 16.2913 | 79.7 | 81.5  | 67 - 123 | 2.19 | 22 |
| 1,1,1-Trichloroethane      | 0    | ug/L | 20  | 22.8051 | 21.5928 | 114  | 108   | 66 - 130 | 5.46 | 20 |
| 1,1,2-Trichloroethane      | 0    | ug/L | 20  | 19.3846 | 19.2348 | 96.9 | 96.2  | 82 - 126 | .78  | 15 |
| Trichloroethene            | 0    | ug/L | 20  | 21.9774 | 21.4053 | 110  | 107   | 77 - 124 | 2.64 | 18 |
| Trichlorofluoromethane     | 0    | ug/L | 20  | 24.3764 | 23.4432 | 122  | 117   | 38 - 123 | 3.9  | 23 |
| 1,2,3-Trichloropropane     | 0    | ug/L | 20  | 19.4192 | 18.4638 | 97.1 | 92.3  | 75 - 132 | 5.04 | 19 |
| 1,2,4-Trimethylbenzene     | 0    | ug/L | 20  | 23.6241 | 23.4137 | 118  | 117   | 76 - 125 | .89  | 24 |
| Vinyl Acetate              | 0    | ug/L | 20  | 15.9683 | 15.6045 | 79.8 | 78    | 58 - 136 | 2.3  | 17 |
| Vinyl Chloride             | 0    | ug/L | 20  | 22.9242 | 22.099  | 115  | 110   | 27 - 138 | 3.67 | 40 |
| o-Xylene                   | 0    | ug/L | 20  | 22.0829 | 21.6744 | 110  | 108   | 79 - 124 | 1.87 | 19 |
| mp-Xylene                  | 0    | ug/L | 40  | 44.3521 | 44.1826 | 111  | 110   | 79 - 125 | .38  | 21 |
| 1,2-Dichloroethane-d4 (S)  | 109  | %    |     |         |         | 109  | 101   | 62 - 133 |      |    |
| 4-Bromofluorobenzene (S)   | 102  | %    |     |         |         | 102  | 100   | 79 - 114 |      |    |
| Dibromofluoromethane (S)   | 103  | %    |     |         |         | 103  | 101   | 78 - 116 |      |    |
| Toluene-d8 (S)             | 97.3 | %    |     |         |         | 97.3 | 97.2  | 76 - 127 |      |    |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** VOMS/50704 **Analysis Method:** SW846 8260B

**QC Batch Method:** SW846 8260B

**Associated Lab Samples:** 3029976004, 3029976005, 3029976007, 3029976008, 3029976009, 3029976010, 3029976011, 3029976012, 3029976013, 3029976014, 3029976015, 3029976016, 3029976021

METHOD BLANK: 2938016

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | ND           | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | 0.44J        | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | ND           | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | ND           | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | ND           | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |     |      |          |
|----------------------------|-----|------|----------|
| 1,3-Dichloropropane        | ND  | ug/L | 1.0      |
| 2,2-Dichloropropane        | ND  | ug/L | 1.0      |
| 1,2-Dichloropropane        | ND  | ug/L | 1.0      |
| cis-1,3-Dichloropropene    | ND  | ug/L | 1.0      |
| trans-1,3-Dichloropropene  | ND  | ug/L | 1.0      |
| 1,3-Dichloropropene, Total | ND  | ug/L | 2.0      |
| Diisopropyl ether          | ND  | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND  | ug/L | 1.0      |
| Ethylbenzene               | ND  | ug/L | 1.0      |
| Freon 113                  | ND  | ug/L | 1.0      |
| Hexachlorobutadiene        | ND  | ug/L | 5.0      |
| 2-Hexanone                 | ND  | ug/L | 5.0      |
| Isopropylbenzene           | ND  | ug/L | 1.0      |
| p-Isopropyltoluene         | ND  | ug/L | 1.0      |
| Methyl acetate             | ND  | ug/L | 2.0      |
| Methyl cyclohexane         | ND  | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND  | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND  | ug/L | 5.0      |
| Methylene Chloride         | ND  | ug/L | 1.0      |
| Naphthalene                | ND  | ug/L | 2.0      |
| n-Propylbenzene            | ND  | ug/L | 1.0      |
| Styrene                    | ND  | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| Tetrachloroethene          | ND  | ug/L | 1.0      |
| Toluene                    | ND  | ug/L | 1.0      |
| Total Xylenes              | ND  | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND  | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND  | ug/L | 1.0      |
| Trichloroethene            | ND  | ug/L | 1.0      |
| Trichlorofluoromethane     | ND  | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND  | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | ND  | ug/L | 1.0      |
| Vinyl Acetate              | ND  | ug/L | 5.0      |
| Vinyl Chloride             | ND  | ug/L | 1.0      |
| o-Xylene                   | ND  | ug/L | 1.0      |
| mp-Xylene                  | ND  | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 116 | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 105 | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 104 | %    | 78 - 116 |
| Toluene-d8 (S)             | 103 | %    | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938017

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 99.1         | ug/L  | 100            | 99.1          | 40 - 151       |
| tert-Amyl methyl ether      | 105          | ug/L  | 20             | 21.1          | 75 - 121       |
| Benzene                     | 103          | ug/L  | 20             | 20.7          | 80 - 124       |
| Bromobenzene                | 98.8         | ug/L  | 20             | 19.8          | 81 - 119       |
| Bromochloromethane          | 97.9         | ug/L  | 20             | 19.6          | 73 - 117       |
| Bromodichloromethane        | 105          | ug/L  | 20             | 21.0          | 79 - 126       |
| Bromoform                   | 88.9         | ug/L  | 20             | 17.8          | 70 - 123       |
| Bromomethane                | 106          | ug/L  | 20             | 21.1          | 45 - 148       |
| 2-Butanone                  | 97.8         | ug/L  | 100            | 97.8          | 50 - 152       |
| tert-Butyl Alcohol          | 127          | ug/L  | 100            | 127           | 17 - 168       |
| n-Butylbenzene              | 103          | ug/L  | 20             | 20.6          | 71 - 130       |
| tert-Butylbenzene           | 101          | ug/L  | 20             | 20.1          | 72 - 124       |
| sec-Butylbenzene            | 105          | ug/L  | 20             | 21.0          | 72 - 127       |
| Carbon Disulfide            | 98.2         | ug/L  | 20             | 19.6          | 57 - 131       |
| Carbon Tetrachloride        | 102          | ug/L  | 20             | 20.4          | 62 - 132       |
| Chlorobenzene               | 96.9         | ug/L  | 20             | 19.4          | 85 - 117       |
| Chlorodibromomethane        | 95.5         | ug/L  | 20             | 19.1          | 77 - 122       |
| Chloroethane                | 90           | ug/L  | 20             | 18.0          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 72.5         | ug/L  | 20             | 14.5          | 1 - 150        |
| Chloroform                  | 101          | ug/L  | 20             | 20.2          | 78 - 122       |
| Chloromethane               | 91.3         | ug/L  | 20             | 18.3          | 38 - 156       |
| o-Chlorotoluene             | 101          | ug/L  | 20             | 20.2          | 78 - 126       |
| p-Chlorotoluene             | 102          | ug/L  | 20             | 20.4          | 78 - 125       |
| Cyclohexane                 | 102          | ug/L  | 20             | 20.4          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 97.8         | ug/L  | 20             | 19.6          | 59 - 133       |
| 1,2-Dibromoethane           | 97.2         | ug/L  | 20             | 19.4          | 80 - 124       |
| Dibromomethane              | 106          | ug/L  | 20             | 21.2          | 81 - 125       |
| 1,2-Dichlorobenzene         | 102          | ug/L  | 20             | 20.3          | 82 - 118       |
| 1,3-Dichlorobenzene         | 97.7         | ug/L  | 20             | 19.5          | 81 - 118       |
| 1,4-Dichlorobenzene         | 99.6         | ug/L  | 20             | 19.9          | 81 - 116       |
| Dichlorodifluoromethane     | 83.2         | ug/L  | 20             | 16.6          | 17 - 166       |
| 1,1-Dichloroethane          | 101          | ug/L  | 20             | 20.1          | 78 - 124       |
| 1,2-Dichloroethane          | 110          | ug/L  | 20             | 22.0          | 70 - 133       |
| 1,1-Dichloroethene          | 107          | ug/L  | 20             | 21.4          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 107          | ug/L  | 40             | 43.0          | 78 - 125       |
| cis-1,2-Dichloroethene      | 106          | ug/L  | 20             | 21.1          | 78 - 125       |
| trans-1,2-Dichloroethene    | 109          | ug/L  | 20             | 21.8          | 71 - 122       |
| 1,3-Dichloropropane         | 96           | ug/L  | 20             | 19.2          | 82 - 126       |
| 2,2-Dichloropropane         | 103          | ug/L  | 20             | 20.7          | 64 - 129       |
| 1,2-Dichloropropane         | 103          | ug/L  | 20             | 20.7          | 81 - 127       |
| cis-1,3-Dichloropropene     | 97.6         | ug/L  | 20             | 19.5          | 81 - 121       |
| trans-1,3-Dichloropropene   | 101          | ug/L  | 20             | 20.2          | 78 - 126       |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropene, Total | 99.4 | ug/L | 40  | 39.7 | 80 - 123 |
| Diisopropyl ether          | 106  | ug/L | 20  | 21.3 | 74 - 131 |
| Ethyl tert-butyl ether     | 106  | ug/L | 20  | 21.3 | 75 - 123 |
| Ethylbenzene               | 97.8 | ug/L | 20  | 19.6 | 80 - 124 |
| Freon 113                  | 95.1 | ug/L | 20  | 19.0 | 50 - 130 |
| Hexachlorobutadiene        | 111  | ug/L | 20  | 22.2 | 55 - 128 |
| 2-Hexanone                 | 104  | ug/L | 100 | 104  | 65 - 154 |
| Isopropylbenzene           | 105  | ug/L | 20  | 21.1 | 73 - 129 |
| p-Isopropyltoluene         | 104  | ug/L | 20  | 20.8 | 72 - 123 |
| Methyl acetate             | 101  | ug/L | 20  | 20.1 | 70 - 130 |
| Methyl cyclohexane         | 96.1 | ug/L | 20  | 19.2 | 70 - 130 |
| Methyl t-Butyl Ether       | 104  | ug/L | 20  | 20.8 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 80.2 | ug/L | 100 | 80.2 | 71 - 146 |
| Methylene Chloride         | 101  | ug/L | 20  | 20.1 | 76 - 121 |
| Naphthalene                | 104  | ug/L | 20  | 20.8 | 56 - 134 |
| n-Propylbenzene            | 99.4 | ug/L | 20  | 19.9 | 74 - 122 |
| Styrene                    | 104  | ug/L | 20  | 20.8 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 101  | ug/L | 20  | 20.2 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 97.2 | ug/L | 20  | 19.4 | 74 - 135 |
| Tetrachloroethene          | 102  | ug/L | 20  | 20.4 | 72 - 124 |
| Toluene                    | 97.2 | ug/L | 20  | 19.4 | 80 - 125 |
| Total Xylenes              | 98.9 | ug/L | 60  | 59.3 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 99.7 | ug/L | 20  | 19.9 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 106  | ug/L | 20  | 21.2 | 67 - 123 |
| 1,1,1-Trichloroethane      | 107  | ug/L | 20  | 21.4 | 66 - 130 |
| 1,1,2-Trichloroethane      | 95.4 | ug/L | 20  | 19.1 | 82 - 126 |
| Trichloroethene            | 99.3 | ug/L | 20  | 19.9 | 77 - 124 |
| Trichlorofluoromethane     | 101  | ug/L | 20  | 20.1 | 38 - 123 |
| 1,2,3-Trichloropropane     | 101  | ug/L | 20  | 20.2 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 102  | ug/L | 20  | 20.4 | 76 - 125 |
| Vinyl Acetate              | 99.4 | ug/L | 20  | 19.9 | 58 - 136 |
| Vinyl Chloride             | 94.9 | ug/L | 20  | 19.0 | 27 - 138 |
| o-Xylene                   | 98.7 | ug/L | 20  | 19.7 | 79 - 124 |
| mp-Xylene                  | 98.9 | ug/L | 40  | 39.6 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 114  | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 104  | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 106  | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 101  | %    |     |      | 76 - 127 |

MATRIX SPIKE: 2938114 DUPLICATE: 2938115 ORIGINAL: 3029976004

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                             |         |      |     |         |         |      |      |          |      |    |
|-----------------------------|---------|------|-----|---------|---------|------|------|----------|------|----|
| Acetone                     | 8.66948 | ug/L | 100 | 95.6425 | 110.482 | 87   | 102  | 40 - 151 | 14.4 | 40 |
| tert-Amyl methyl ether      | 0       | ug/L | 20  | 21.9742 | 22.3612 | 110  | 112  | 75 - 121 | 1.75 | 40 |
| Benzene                     | 0       | ug/L | 20  | 21.5598 | 20.9401 | 108  | 105  | 80 - 124 | 2.92 | 26 |
| Bromobenzene                | 0       | ug/L | 20  | 20.9645 | 20.3328 | 105  | 102  | 81 - 119 | 3.06 | 17 |
| Bromochloromethane          | 0       | ug/L | 20  | 21.4809 | 19.7469 | 107  | 98.7 | 73 - 117 | 8.41 | 19 |
| Bromodichloromethane        | 0       | ug/L | 20  | 22.5878 | 21.7913 | 113  | 109  | 79 - 126 | 3.59 | 16 |
| Bromoform                   | 0       | ug/L | 20  | 17.2017 | 17.7945 | 86   | 89   | 70 - 123 | 3.39 | 16 |
| Bromomethane                | .72384  | ug/L | 20  | 17.96   | 20.3658 | 86.2 | 98.2 | 45 - 148 | 12.6 | 26 |
| 2-Butanone                  | 0       | ug/L | 100 | 90.0202 | 100.546 | 90   | 101  | 50 - 152 | 11   | 16 |
| tert-Butyl Alcohol          | 0       | ug/L | 100 | 121.114 | 139.402 | 121  | 139  | 17 - 168 | 14   | 40 |
| n-Butylbenzene              | 0       | ug/L | 20  | 21.9987 | 22.1688 | 110  | 111  | 71 - 130 | .77  | 20 |
| tert-Butylbenzene           | 0       | ug/L | 20  | 21.4549 | 21.229  | 107  | 106  | 72 - 124 | 1.06 | 17 |
| sec-Butylbenzene            | 0       | ug/L | 20  | 22.3738 | 22.5414 | 112  | 113  | 72 - 127 | .75  | 17 |
| Carbon Disulfide            | 0       | ug/L | 20  | 20.2399 | 18.6872 | 101  | 93.4 | 57 - 131 | 7.98 | 28 |
| Carbon Tetrachloride        | 0       | ug/L | 20  | 22.4989 | 21.8721 | 112  | 109  | 62 - 132 | 2.83 | 17 |
| Chlorobenzene               | 0       | ug/L | 20  | 20.4785 | 19.634  | 102  | 98.2 | 85 - 117 | 4.21 | 15 |
| Chlorodibromomethane        | 0       | ug/L | 20  | 20.3333 | 19.9289 | 102  | 99.6 | 77 - 122 | 2.01 | 15 |
| Chloroethane                | 0       | ug/L | 20  | 19.9793 | 19.0357 | 99.9 | 95.2 | 51 - 142 | 4.84 | 24 |
| 2-Chloroethylvinyl ether    | 0       | ug/L | 20  | .0795   | .07607  | .4*  | .38* | 1 - 150  | 4.42 | 40 |
| Chloroform                  | 0       | ug/L | 20  | 21.6908 | 20.6716 | 108  | 103  | 78 - 122 | 4.81 | 16 |
| Chloromethane               | 0       | ug/L | 20  | 18.2151 | 20.0243 | 91.1 | 100  | 38 - 156 | 9.46 | 27 |
| o-Chlorotoluene             | 0       | ug/L | 20  | 21.474  | 21.0793 | 107  | 105  | 78 - 126 | 1.86 | 17 |
| p-Chlorotoluene             | 0       | ug/L | 20  | 21.3945 | 20.9094 | 107  | 105  | 78 - 125 | 2.29 | 16 |
| Cyclohexane                 | 0       | ug/L | 20  | 22.3342 | 21.8363 | 112  | 109  | 66 - 130 | 2.25 | 20 |
| 1,2-Dibromo-3-chloropropane | 0       | ug/L | 20  | 19.0289 | 22.0485 | 95.1 | 110  | 59 - 133 | 14.7 | 26 |
| 1,2-Dibromoethane           | 0       | ug/L | 20  | 20.2635 | 20.2198 | 101  | 101  | 80 - 124 | .22  | 19 |
| Dibromomethane              | 0       | ug/L | 20  | 22.1779 | 21.2724 | 111  | 106  | 81 - 125 | 4.17 | 16 |
| 1,2-Dichlorobenzene         | 0       | ug/L | 20  | 21.222  | 20.8293 | 106  | 104  | 82 - 118 | 1.87 | 15 |
| 1,3-Dichlorobenzene         | 0       | ug/L | 20  | 20.5654 | 20.1046 | 103  | 101  | 81 - 118 | 2.27 | 16 |
| 1,4-Dichlorobenzene         | 0       | ug/L | 20  | 20.8987 | 20.2515 | 104  | 101  | 81 - 116 | 3.15 | 15 |
| Dichlorodifluoromethane     | 0       | ug/L | 20  | 19.5686 | 18.6556 | 97.8 | 93.3 | 17 - 166 | 4.78 | 24 |
| 1,1-Dichloroethane          | 0       | ug/L | 20  | 21.5814 | 20.7897 | 108  | 104  | 78 - 124 | 3.74 | 15 |
| 1,2-Dichloroethane          | 0       | ug/L | 20  | 24.1527 | 23.1099 | 121  | 116  | 70 - 133 | 4.41 | 19 |
| 1,1-Dichloroethene          | 0       | ug/L | 20  | 23.2005 | 22.4219 | 116  | 112  | 63 - 128 | 3.41 | 21 |
| 1,2-Dichloroethene, Total   | 0       | ug/L | 40  | 45.8156 | 44.039  | 115  | 110  | 78 - 125 | 3.95 | 40 |
| cis-1,2-Dichloroethene      | 0       | ug/L | 20  | 22.3441 | 21.6801 | 112  | 108  | 78 - 125 | 3.02 | 21 |
| trans-1,2-Dichloroethene    | 0       | ug/L | 20  | 23.4715 | 22.3589 | 117  | 112  | 71 - 122 | 4.86 | 22 |
| 1,3-Dichloropropane         | 0       | ug/L | 20  | 20.0414 | 19.6238 | 100  | 98.1 | 82 - 126 | 2.11 | 15 |
| 2,2-Dichloropropane         | 0       | ug/L | 20  | 20.7257 | 19.7027 | 104  | 98.5 | 64 - 129 | 5.06 | 18 |
| 1,2-Dichloropropane         | 0       | ug/L | 20  | 21.6141 | 21.0819 | 108  | 105  | 81 - 127 | 2.49 | 15 |
| cis-1,3-Dichloropropene     | 0       | ug/L | 20  | 19.7998 | 18.8377 | 99   | 94.2 | 81 - 121 | 4.98 | 16 |
| trans-1,3-Dichloropropene   | 0       | ug/L | 20  | 20.6622 | 19.9569 | 103  | 99.8 | 78 - 126 | 3.47 | 18 |
| 1,3-Dichloropropene, Total  | 0       | ug/L | 40  | 40.462  | 38.7946 | 101  | 97   | 80 - 123 | 4.21 | 16 |
| Diisopropyl ether           | 0       | ug/L | 20  | 22.4947 | 21.6743 | 112  | 108  | 74 - 131 | 3.71 | 15 |
| Ethyl tert-butyl ether      | 0       | ug/L | 20  | 22.6842 | 21.8632 | 113  | 109  | 75 - 123 | 3.69 | 16 |
| Ethylbenzene                | 0       | ug/L | 20  | 20.8314 | 20.4435 | 104  | 102  | 80 - 124 | 1.88 | 19 |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

|                            |        |      |     |         |         |      |      |          |      |    |
|----------------------------|--------|------|-----|---------|---------|------|------|----------|------|----|
| Freon 113                  | 0      | ug/L | 20  | 20.9512 | 20.2925 | 105  | 101  | 50 - 130 | 3.19 | 26 |
| Hexachlorobutadiene        | 0      | ug/L | 20  | 22.8576 | 22.0098 | 114  | 110  | 55 - 128 | 3.78 | 35 |
| 2-Hexanone                 | 0      | ug/L | 100 | 101.706 | 111.793 | 102  | 112  | 65 - 154 | 9.45 | 17 |
| Isopropylbenzene           | 0      | ug/L | 20  | 22.4364 | 21.7224 | 112  | 109  | 73 - 129 | 3.23 | 18 |
| p-Isopropyltoluene         | 0      | ug/L | 20  | 22.1205 | 22.4532 | 111  | 112  | 72 - 123 | 1.49 | 17 |
| Methyl acetate             | 0      | ug/L | 20  | 15.3794 | 16.453  | 76.9 | 82.3 | 70 - 130 | 6.75 | 18 |
| Methyl cyclohexane         | 0      | ug/L | 20  | 21.0903 | 20.7113 | 105  | 104  | 70 - 130 | 1.81 | 18 |
| Methyl t-Butyl Ether       | 0      | ug/L | 20  | 21.3677 | 20.8095 | 107  | 104  | 69 - 115 | 2.65 | 20 |
| 4-Methyl-2-Pentanone(MIBK) | 0      | ug/L | 100 | 79.5463 | 85.5928 | 79.5 | 85.6 | 71 - 146 | 7.32 | 16 |
| Methylene Chloride         | 0      | ug/L | 20  | 20.7918 | 20.0472 | 104  | 100  | 76 - 121 | 3.65 | 17 |
| Naphthalene                | 0      | ug/L | 20  | 19.6319 | 21.8742 | 98.2 | 109  | 56 - 134 | 10.8 | 40 |
| n-Propylbenzene            | 0      | ug/L | 20  | 21.3543 | 20.7662 | 107  | 104  | 74 - 122 | 2.79 | 20 |
| Styrene                    | 0      | ug/L | 20  | 21.5177 | 20.3988 | 108  | 102  | 79 - 123 | 5.34 | 16 |
| 1,1,1,2-Tetrachloroethane  | 0      | ug/L | 20  | 21.6478 | 20.8277 | 108  | 104  | 78 - 121 | 3.86 | 16 |
| 1,1,2,2-Tetrachloroethane  | 0      | ug/L | 20  | 19.6644 | 19.8466 | 98.3 | 99.2 | 74 - 135 | .92  | 16 |
| Tetrachloroethene          | 0      | ug/L | 20  | 21.2157 | 20.8358 | 106  | 104  | 72 - 124 | 1.81 | 38 |
| Toluene                    | .25584 | ug/L | 20  | 20.8664 | 20.0381 | 103  | 98.9 | 80 - 125 | 4.05 | 20 |
| Total Xylenes              | 0      | ug/L | 60  | 63.3954 | 61.5749 | 106  | 103  | 79 - 125 | 2.91 | 35 |
| 1,2,3-Trichlorobenzene     | 0      | ug/L | 20  | 20.2757 | 21.0523 | 101  | 105  | 61 - 126 | 3.76 | 36 |
| 1,2,4-Trichlorobenzene     | 0      | ug/L | 20  | 21.7523 | 22.1283 | 109  | 111  | 67 - 123 | 1.71 | 22 |
| 1,1,1-Trichloroethane      | 0      | ug/L | 20  | 23.8717 | 23.1493 | 119  | 116  | 66 - 130 | 3.07 | 20 |
| 1,1,2-Trichloroethane      | 0      | ug/L | 20  | 19.9664 | 19.4541 | 99.8 | 97.3 | 82 - 126 | 2.6  | 15 |
| Trichloroethene            | 0      | ug/L | 20  | 21.2705 | 20.466  | 106  | 102  | 77 - 124 | 3.86 | 18 |
| Trichlorofluoromethane     | 0      | ug/L | 20  | 24.1421 | 23.8429 | 121  | 119  | 38 - 123 | 1.25 | 23 |
| 1,2,3-Trichloropropane     | 0      | ug/L | 20  | 20.3045 | 20.8854 | 102  | 104  | 75 - 132 | 2.82 | 19 |
| 1,2,4-Trimethylbenzene     | 0      | ug/L | 20  | 21.4474 | 20.8234 | 107  | 104  | 76 - 125 | 2.95 | 24 |
| Vinyl Acetate              | 0      | ug/L | 20  | 16.2866 | 16.1281 | 81.4 | 80.6 | 58 - 136 | .98  | 17 |
| Vinyl Chloride             | 0      | ug/L | 20  | 21.0862 | 20.094  | 105  | 100  | 27 - 138 | 4.82 | 40 |
| o-Xylene                   | 0      | ug/L | 20  | 20.9008 | 20.5215 | 105  | 103  | 79 - 124 | 1.83 | 19 |
| mp-Xylene                  | 0      | ug/L | 40  | 42.4946 | 41.0534 | 106  | 103  | 79 - 125 | 3.45 | 21 |
| 1,2-Dichloroethane-d4 (S)  | 119    | %    |     |         |         | 119  | 117  | 62 - 133 |      |    |
| 4-Bromofluorobenzene (S)   | 104    | %    |     |         |         | 104  | 102  | 79 - 114 |      |    |
| Dibromofluoromethane (S)   | 108    | %    |     |         |         | 108  | 106  | 78 - 116 |      |    |
| Toluene-d8 (S)             | 99.8   | %    |     |         |         | 99.8 | 99   | 76 - 127 |      |    |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WCPR/47128 **Analysis Method:** SW-846 7.3CN

**QC Batch Method:** SW-846 7.3CN

**Associated Lab Samples:** 3029976017, 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2937021**

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | ppm   | 10              |

**LABORATORY CONTROL SAMPLE: 2937022**

| Parameter         | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-------------------|-----------|-------|-------------|------------|-------------|
| Cyanide, Reactive | 8         | ppm   | 10          | 0.80J      | 0 - 92      |

**SAMPLE DUPLICATE: 2937023 ORIGINAL: 3030513001**

| Parameter         | Original Result | Units | DUP Result | RPD | Max RPD |
|-------------------|-----------------|-------|------------|-----|---------|
| Cyanide, Reactive | -.01            | ppm   | -.00996    | NC  | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WCPR/47129 **Analysis Method:** SW846 7.3

**QC Batch Method:** SW846 7.3

**Associated Lab Samples:** 3029976017, 3029976018, 3029976019, 3029976020

**METHOD BLANK: 2937024**

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | 3.2J         | ppm   | 6.2             |

**LABORATORY CONTROL SAMPLE: 2937025**

| Parameter         | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-------------------|-----------|-------|-------------|------------|-------------|
| Sulfide, Reactive | 72.1      | ppm   | 567         | 409        | 49 - 148    |

**SAMPLE DUPLICATE: 2937026 ORIGINAL: 3030513001**

| Parameter         | Original Result | Units | DUP Result | RPD   | Max RPD |
|-------------------|-----------------|-------|------------|-------|---------|
| Sulfide, Reactive | 3.1984          | ppm   | 6.3745     | 66.4* | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WCPR/47186 **Analysis Method:** SW846 7.3  
**QC Batch Method:** SW846 7.3  
**Associated Lab Samples:** 3029976020

**METHOD BLANK: 2939575**

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | 6.0J         | ppm   | 6.2             |

**LABORATORY CONTROL SAMPLE: 2939576**

| Parameter         | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-------------------|-----------|-------|-------------|------------|-------------|
| Sulfide, Reactive | 68.6      | ppm   | 568         | 390        | 49 - 148    |

**SAMPLE DUPLICATE: 2939577 ORIGINAL: 3030918002**

| Parameter         | Original Result | Units | DUP Result | RPD  | Max RPD |
|-------------------|-----------------|-------|------------|------|---------|
| Sulfide, Reactive | 11.14983        | ppm   | 1.59601    | 150* | 20      |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WETC/220931 **Analysis Method:** S2540G-11

**QC Batch Method:** S2540G-11

**Associated Lab Samples:** 3029976017, 3029976018, 3029976019, 3029976020

SAMPLE DUPLICATE: 2935273 ORIGINAL: 3030139001

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 22.8739         | %     | 23.747     | 3.75 | 10      |
| Total Solids | 77.126          | %     | 76.2529    | 1.14 | 5       |

SAMPLE DUPLICATE: 2935274 ORIGINAL: 3030175001

| Parameter    | Original Result | Units | DUP Result | RPD | Max RPD |
|--------------|-----------------|-------|------------|-----|---------|
| Moisture     | 8.9401          | %     | 9.0186     | .87 | 10      |
| Total Solids | 91.0598         | %     | 90.9813    | .09 | 5       |

SAMPLE DUPLICATE: 2935275 ORIGINAL: 3030176005

| Parameter    | Original Result | Units | DUP Result | RPD | Max RPD |
|--------------|-----------------|-------|------------|-----|---------|
| Moisture     | 10.7843         | %     | 10.7021    | .77 | 10      |
| Total Solids | 89.2156         | %     | 89.2978    | .09 | 5       |

SAMPLE DUPLICATE: 2935276 ORIGINAL: 3030178003

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 16.1111         | %     | 13.7931    | 15.5* | 10      |
| Total Solids | 83.8888         | %     | 86.2068    | 2.73  | 5       |

SAMPLE DUPLICATE: 2935277 ORIGINAL: 3030120004

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 7.6923          | %     | 6.8334     | 11.8* | 10      |
| Total Solids | 92.3076         | %     | 93.1665    | .93   | 5       |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

SAMPLE DUPLICATE: 2935278 ORIGINAL: 3029976019

| Parameter    | Original Result | Units | DUP Result | RPD | Max RPD |
|--------------|-----------------|-------|------------|-----|---------|
| Moisture     | 54.8076         | %     | 54.5751    | .43 | 10      |
| Total Solids | 45.1923         | %     | 45.4248    | .51 | 5       |

SAMPLE DUPLICATE: 2935279 ORIGINAL: 3030179006

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 14.834          | %     | 14.6327    | 1.37 | 10      |
| Total Solids | 85.1659         | %     | 85.3672    | .24  | 5       |

SAMPLE DUPLICATE: 2935280 ORIGINAL: 3030306003

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 10.2402         | %     | 9.6862     | 5.56 | 10      |
| Total Solids | 89.7597         | %     | 90.3137    | .62  | 5       |

SAMPLE DUPLICATE: 2935281 ORIGINAL: 3030121004

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 8.6874          | %     | 9.5398     | 9.35 | 10      |
| Total Solids | 91.3125         | %     | 90.4601    | .94  | 5       |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WETC/221082 **Analysis Method:** SW846 7.3

**QC Batch Method:** SW846 7.3

**Associated Lab Samples:**

METHOD BLANK: 2937174

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

METHOD BLANK: 2937176

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

METHOD BLANK: 2937178

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WETC/221138 **Analysis Method:** SW-846 7.3CN

**QC Batch Method:** SW-846 7.3CN

**Associated Lab Samples:**

METHOD BLANK: 2937922

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/L  | 0.00010         |

METHOD BLANK: 2937924

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/L  | 0.00010         |

METHOD BLANK: 2937926

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/L  | 0.00010         |

METHOD BLANK: 2937928

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/L  | 0.00010         |

METHOD BLANK: 2937930

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/L  | 0.00010         |

METHOD BLANK: 2937932

| Parameter | Blank Result | Units | Reporting Limit |
|-----------|--------------|-------|-----------------|
|-----------|--------------|-------|-----------------|

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

Cyanide, Reactive                      ND      mg/L      0.00010

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**QUALITY CONTROL DATA**

Workorder: 3029976 LMC MRC / 95840ACM

**QC Batch:** WETC/221267 **Analysis Method:** SW846 7.3

**QC Batch Method:** SW846 7.3

**Associated Lab Samples:**

METHOD BLANK: 2939717

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

METHOD BLANK: 2939719

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

METHOD BLANK: 2939721

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

METHOD BLANK: 2939723

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | ppm   | 6.3             |

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID             | Prep Method  | Prep Batch | Analysis Method | Analysis Batch |
|------------|-----------------------|--------------|------------|-----------------|----------------|
| 3029976017 | F001-IDW-TUBE         |              |            | S2540G-11       | WETC/220931    |
| 3029976018 | F001-IDW-GLOVES       |              |            | S2540G-11       | WETC/220931    |
| 3029976019 | F001-IDW-PAPER        |              |            | S2540G-11       | WETC/220931    |
| 3029976020 | F001-IDW-STRING       |              |            | S2540G-11       | WETC/220931    |
| 3029976017 | F001-IDW-TUBE         | SW846 3546   | EXTR/56256 | SW846 8082A     | SVGC/52922     |
| 3029976018 | F001-IDW-GLOVES       | SW846 3546   | EXTR/56256 | SW846 8082A     | SVGC/52922     |
| 3029976019 | F001-IDW-PAPER        | SW846 3546   | EXTR/56256 | SW846 8082A     | SVGC/52922     |
| 3029976020 | F001-IDW-STRING       | SW846 3546   | EXTR/56256 | SW846 8082A     | SVGC/52922     |
| 3029976001 | MRC-SW8A-S-042419     | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976003 | MRC-SW8A-S-DUP-042419 | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976004 | MRC-SW8B-S-042419     | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976007 | FB-052519-ZN          | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976013 | MRC-SW6B-S-042519     | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976014 | MRC-SW6A-S-042519     | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976016 | MRC-W17A-042519       | SW846 3510C  | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029976017 | F001-IDW-TUBE         | SW-846 7.3CN | WCPR/47128 | SW-846 7.3CN    | WETC/221138    |
| 3029976018 | F001-IDW-GLOVES       | SW-846 7.3CN | WCPR/47128 | SW-846 7.3CN    | WETC/221138    |
| 3029976019 | F001-IDW-PAPER        | SW-846 7.3CN | WCPR/47128 | SW-846 7.3CN    | WETC/221138    |
| 3029976020 | F001-IDW-STRING       | SW-846 7.3CN | WCPR/47128 | SW-846 7.3CN    | WETC/221138    |
| 3029976017 | F001-IDW-TUBE         | SW846 7.3    | WCPR/47129 | SW846 7.3       | WETC/221082    |
| 3029976018 | F001-IDW-GLOVES       | SW846 7.3    | WCPR/47129 | SW846 7.3       | WETC/221082    |
| 3029976019 | F001-IDW-PAPER        | SW846 7.3    | WCPR/47129 | SW846 7.3       | WETC/221082    |
| 3029976001 | MRC-SW8A-S-042419     |              |            | SW846 8260B     | VOMS/50703     |
| 3029976002 | TB-042519-1           |              |            | SW846 8260B     | VOMS/50703     |
| 3029976003 | MRC-SW8A-S-DUP-042419 |              |            | SW846 8260B     | VOMS/50703     |

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID           | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|------------|---------------------|-------------|------------|-----------------|----------------|
| 3029976004 | MRC-SW8B-S-042419   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976005 | TB-042519-2         |             |            | SW846 8260B     | VOMS/50704     |
| 3029976007 | FB-052519-ZN        |             |            | SW846 8260B     | VOMS/50704     |
| 3029976008 | MRC-SW7A-S-042519-A |             |            | SW846 8260B     | VOMS/50704     |
| 3029976009 | MRC-SW7B-S-042519   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976010 | MRC-SW9A-S-042519   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976011 | TB-042519-3         |             |            | SW846 8260B     | VOMS/50704     |
| 3029976012 | MRC-SW9B-S-042519   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976013 | MRC-SW6B-S-042519   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976014 | MRC-SW6A-S-042519   |             |            | SW846 8260B     | VOMS/50704     |
| 3029976015 | TB-042519-4         |             |            | SW846 8260B     | VOMS/50704     |
| 3029976016 | MRC-W17A-042519     |             |            | SW846 8260B     | VOMS/50704     |
| 3029976021 | TB-042519-5         |             |            | SW846 8260B     | VOMS/50704     |
| 3029976017 | F001-IDW-TUBE       | SW846 3510C | EXTR/56309 | SW846 8270D     | SVMS/33022     |
| 3029976017 | F001-IDW-TUBE       | SW846 3015  | MDIG/77598 | SW846 6010C     | META/67425     |
| 3029976017 | F001-IDW-TUBE       | SW846 7470A | MDIG/77605 | SW846 7470A     | META/67442     |
| 3029976020 | F001-IDW-STRING     | SW846 7.3   | WCPR/47186 | SW846 7.3       | WETC/221267    |
| 3029976018 | F001-IDW-GLOVES     | SW846 7470A | MDIG/77656 | SW846 7470A     | META/67507     |
| 3029976019 | F001-IDW-PAPER      | SW846 7470A | MDIG/77656 | SW846 7470A     | META/67507     |
| 3029976020 | F001-IDW-STRING     | SW846 7470A | MDIG/77656 | SW846 7470A     | META/67507     |
| 3029976017 | F001-IDW-TUBE       |             |            | SW846 8260C     | VOMS/50756     |
| 3029976018 | F001-IDW-GLOVES     |             |            | SW846 8260C     | VOMS/50756     |
| 3029976019 | F001-IDW-PAPER      |             |            | SW846 8260C     | VOMS/50756     |
| 3029976020 | F001-IDW-STRING     |             |            | SW846 8260C     | VOMS/50756     |

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 3029976 LMC MRC / 95840ACM

| Lab ID     | Sample ID       | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|------------|-----------------|-------------|------------|-----------------|----------------|
| 3029976018 | F001-IDW-GLOVES | SW846 3015  | MDIG/77672 | SW846 6010C     | META/67518     |
| 3029976019 | F001-IDW-PAPER  | SW846 3015  | MDIG/77672 | SW846 6010C     | META/67518     |
| 3029976020 | F001-IDW-STRING | SW846 3015  | MDIG/77672 | SW846 6010C     | META/67518     |
| 3029976018 | F001-IDW-GLOVES | SW846 3510C | EXTR/56364 | SW846 8270D     | SVMS/33057     |
| 3029976019 | F001-IDW-PAPER  | SW846 3510C | EXTR/56364 | SW846 8270D     | SVMS/33057     |
| 3029976020 | F001-IDW-STRING | SW846 3510C | EXTR/56364 | SW846 8270D     | SVMS/33057     |

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34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430



**Environmental**

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150

Germentown, MD 20876

Contact: Ravi Damera & Holly Brown

Phone#: 301-674-3199

Project Name#: LMC MRC /95840ACM

Bill To: Ravi Damera

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.

Date Required: Approved?

Email?  -Y ravi.damara@aecom.com

Fax?  -Y No.

Sample Description/Location

(as it will appear on the lab report)

Sample Date

Time

MRC-SW8A-S-042419

4/24/2019

1520

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA

NA



Receipt Information (complete by Receiving Lab)

Cooler Temp: 2°C Therm ID: 401

No. of Coolers: Y N Initial

Custody Seals Present? (If present) Seals Intact?

Received on Ice?

COC/Labels Complete/Accurate?

Cont. in Good Cond.?

Correct Containers?

Correct Sample Volumes?

Correct Preservation?

Headspaced/Volatiles?

Courier/Tracking #:

Sample/COC Comments

Extra Volume for MS/MSD

Trip Blank

ALS Field Services: Pickup Labor Composite Sampling Rental Equipment Other:

State Samples Collected In

Special Processing

Deliverables

Reportable to PADEP?

PWSID #

EDDS: Formal Type: EQUIS and csv

LOGGED BY (signature):

REVIEWED BY (signature):

Date

Time

Received By / Company Name

Date

Time

Received By / Company Name

Date

Time

Received By / Company Name

Date

Time

Received By / Company Name

Date

Time

Received By / Company Name

Date

Time

Received By / Company Name

Date

1 of 5

Rev 10/14

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

\*Matrix - Air=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; Ok=Other Liquid; S=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

\*G=Grab; C=Composite



34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430

**Environmental**

Client Name: AECOM  
Address: 12420 Milestone Center Drive, Suite 150  
Germentown, MD 20876  
Contact: Ravi Damara & Holly Brown

Phone#: 301-674-3199  
Project Name#: LMC MRC / 95840ACM  
Bill To: Ravi Damara

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
Date Required: \_\_\_\_\_ Approved?  
Email?  -Y ravi.damara@aecom.com  
Fax?  -Y No: \_\_\_\_\_

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time |
|--|-------------|------|
| MRC-SW8A-S-DUP-042419  | 4/24/2019   | 1525 |
| MRC-SW8B-S-042419  | 4/24/2019   | 1600 |
| TB-042519-2  | NA          | NA   |
| MRC-SW20-042519  | 4/25/2019   | 1000 |

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**  
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/  
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3029976  
ALS Quote #: 2 of 5

| Container Type   | CG   | AG | P     | P     | AG   | CG | P     | P     | P     | AG    | P     | AG    | AG  | Receipt Information (Completed by Receiving Lab)                            |     |                     |  |
|--|------|----|-------|-------|------|----|-------|-------|-------|-------|-------|-------|-----|---|-----|---------------------|--|
| Container Size   | 40mL | IL | 250mL | 250mL | 40mL | IL | 250mL | 500mL | 250mL | 250mL | 250mL | 40mL  | HCl | Therm ID: 401   | Y N |                     |  |
| Preservative   | HCl  |    | HNO3  | NH4OH | HCl  |    |       |       |       |       |       | H2SO4 | HCl |   |     |                     |  |
| <b>ANALYSES/METHOD REQUESTED</b>                                     |      |    |       |       |      |    |       |       |       |       |       |       |     | Cooler Temp: 1°C  |     | Therm ID: 401       |  |
| <b>Enter Number of Containers Per Sample or Field Results Below.</b> |      |    |       |       |      |    |       |       |       |       |       |       |     | Custody Seals Present? (if present) Seals Intact?                           |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | COC Labels Complete/Accurate?   |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Cont. in Good Cond.?  |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Correct Containers?   |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Correct Sample Volumes?   |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Correct Preservation?   |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Headspace/Volatiles?  |     | Y N                 |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Courier/Tracking #:   |     | Sample/COC Comments |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Field Duplicate   |     |                     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Trip Blank  |     |                     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Only 1L Amber Obtained from Location  |     |                     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | ALS Field Services: Pickup Labor Composite Sampling Rental Equipment Other: |     |                     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | X Standard  |     | Special Processing  |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | OCLP-like   |     | USACE               |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | USACE   |     | Navy                |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Reportable to PADEP?  |     | Sample Disposal     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | Yes   |     | Lab X               |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | PWSID #   |     | Special             |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | EDDS: Formal Type- EQUIS and .csv   |     |                     |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | State Samples Collected In  |     | NY                  |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | NJ  |     | PA                  |  |
| <b>Matrix</b>  |      |    |       |       |      |    |       |       |       |       |       |       |     | NC  |     |                     |  |

| Project Comments: Please also email data to holly.brown@aecom.com and naoun.tavantzis@aecom.com | LOGGED BY (signature) | REVIEWED BY (signature) | Date    | Time | Received By / Company Name |
|---|-----------------------|-------------------------|---------|------|----------------------------|
| 1   | <i>[Signature]</i>    | <i>[Signature]</i>      | 4/25/19 | 1610 | Common Courier             |
| 3   | <i>[Signature]</i>    | <i>[Signature]</i>      | 4/25/19 | 2100 | Common Courier             |
| 5   | <i>[Signature]</i>    | <i>[Signature]</i>      | 4/25/19 | 2100 | Common Courier             |
| 7   |                       |                         |         |      |                            |
| 9   |                       |                         |         |      |                            |

\* G=Grab; C=Composite \*Matrix - AL=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater  
ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057  
Rev 10/14





34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430

**Environmental**

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150

Germanstown, MD 20876

Contact: Ravi Damara & Holly Brown

Phone#: 301-674-3199

Project Name#: LMC MRC / 95840ACM

Bill To: Ravi Damara

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.

Date Required: \_\_\_\_\_ Approved?

Email?  -Y ravi.damara@aecom.com

Fax?  -Y No.

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time |
|--|-------------|------|
| FB-042519-ZN   | 4/25/2019   | 1055 |
| MRC-SW7A-S-042519-A  | 4/25/2019   | 945  |
| MRC-SW7B-S-042519-A  | 4/25/2019   | 1015 |
| MRC-SW9A-S-042519-A  | 4/25/2019   | 905  |
| TB-042519-3  | NA          | NA   |

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**

**ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.**

COC #: 3029976 of 3  
ALS Quote #: 5

Receipt Information (completed by Receiving Lab)  
Cooler Temp: 1 °C Therm ID: Y01  
No. of Coolers: Y N Initial

Custody Seals Present? (if present) Seals Intact?  
Received on Ice?  
COC Labels Complete/Accurate?  
Cont. In Good Cond.?  
Correct Containers?  
Correct Sample Volumes?  
Correct Preservation?  
Headspace/Volatiles?

ANALYSES/METHOD REQUESTED

| Container Type | CG  | AG | P     | AG    | CG   | P     | AG    | CG    | P     | P     | P     | AG   | P     | AG    |
|----------------|-----|----|-------|-------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 40mL           | HCl | 1L | 250mL | 250mL | 40mL | 500mL | 250mL | 250mL | 250mL | 250mL | 250mL | 40mL | 250mL | 250mL |
| Preservative   | HCl |    | HNO3  | NH4OH | HCl  |       |       |       |       |       |       |      | H2SO4 | HCl   |

Enter Number of Containers Per Sample or Field Results Below.

| Matrix | 1,4-Dioxane (8270D SIM) | VOCs (8260C) | TAL Metals (8010C/6020A/7470A) | Hexavalent Chromium (218.6) | PCB Homologs (880/8280C) | MEE (RSK 175) | MNA (Cl, NO2, NO3, SO4, TDS, Ortho) | Alkalinity (S2320B) | Ammonia-N (D6919) | TOC (55310B) |
|--------|-------------------------|--------------|--------------------------------|-----------------------------|--------------------------|---------------|-------------------------------------|---------------------|-------------------|--------------|
| G      | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| SW     | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| G      | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| SW     | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| G      | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| SW     | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| G      | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |
| WQ     | 2                       | 2            | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |

ALS Field Services:    Pickup    Labor     
   Composite Sampling    Rental Equipment     
   Other:   

Special Processing: USACE  Navy  State Samples Collected In  NY  NJ  PA  NC

Special Processing: USACE  Navy  State Samples Collected In  NY  NJ  PA  NC

Reportable to PADEP?  Yes  No  PWSID #   

EDDS: Formal Type:    EQUIS and .csv   

LOGGED BY (signature): \_\_\_\_\_ # \_\_\_\_\_

REVIEWED BY (signature): \_\_\_\_\_ # \_\_\_\_\_

| Refiniquished By / Company Name | Date      | Time      | Received By / Company Name   | Date      | Time      |
|---------------------------------|-----------|-----------|------------------------------|-----------|-----------|
| <u>  </u>                       | <u>  </u> | <u>  </u> | <u>  </u>                    | <u>  </u> | <u>  </u> |
| <u>  </u>                       | 4/25/19   | 1140      | <u>  </u>                    | 4/25      | 1610      |
| <u>  </u>                       | 4/25      |           | COMMON COURIER / ALS COURIER | 4/25/19   | 2100      |
| <u>  </u>                       |           |           | <u>  </u>                    |           |           |
| <u>  </u>                       |           |           | <u>  </u>                    |           |           |
| <u>  </u>                       |           |           | <u>  </u>                    |           |           |





34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430



**Environmental**

**Client Name:** AECOM  
**Address:** 12420 Milestone Center Drive, Suite 150  
Germanstown, MD 20876  
**Contact:** Ravi Damara & Holly Brown  
**Phone#:** 301-674-3199  
**Project Name#:** LMC MRC / 95840ACM  
**Bill To:** Ravi Damara

**TAT** Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
**Date Required:** Approved?  
**Email?**  -Y ravi.damara@aecom.com  
**Fax?**  -Y No.

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time | Matrix | 1,4-Dioxane (8270 SIM) | TCLP Full Suite (VOCs, SVOCs),<br>Metals, PCBs, RIC | Enter Number of Containers Per Sample or Field Results Below. | LOGGED BY (signature): | REVIEWED BY (signature): |
|--|-------------|------|--------|------------------------|---|---|------------------------|--------------------------|
| MRC-SW 17A-042519  | 4/25/2019   | 925  | G      | 2                      | 2   | 2   |                        |                          |
| F001-IDW-TUBE  | 4/25/2019   | 1315 | G      |                        |   | 2   |                        |                          |
| F001-IDW-GLOVES  | 4/25/2019   | 1300 | G      |                        |   | 2   |                        |                          |
| F001-IDW-PAPER   | 4/25/2019   | 1310 | G      |                        |   | 1   |                        |                          |
| F001-IDW-STRING  | 4/25/2019   | 1305 | G      |                        |   | 1   |                        |                          |
| TB-042519-5  | NA          | NA   | G      | 2                      |   |   |                        |                          |

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**  
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.

**COC #:** 3029976 **ALS Quote #:** 5 of 5

**Receipt Information (completed by Receiving Lab)**  
**Cooler Temp:** 2°C **Therm ID:** 401  
**No. of Coolers:** Y N Initial  
Custody Seals Present? (if present) Seals Intact?  
Received on Ice?  
COC/Labels Complete/Accurate?  
Cont. In Good Cond.?  
Correct Containers?  
Correct Sample Volumes?  
Correct Preservation?  
Headspaces/Volatiles?

**ANALYSES/METHOD REQUESTED**

**ALS Field Services:**  Pickup  Labor  
 Composite Sampling  Rental Equipment  
 Other.

**Special Processing**  
USACE  Navy   
State Samples Collected In: NY  NJ  PA  NC

**Deliverables**  
 Standard  CLP-like  USACE  
**Reportable to PADEP?** Yes   
PWSID #

**EDDS:** Formal Type: EQUIS and .csv

| Project Comments: Please also email data to holly.brown@aecom.com and nanam.tavantzis@aecom.com | Date    | Time | Received By / Company Name   |
|---|---------|------|------------------------------|
| 1   | 4/25/19 | 1100 | 2 COMMON COURIER ALS COURIER |
| 3   | 4/25/19 | 1400 | 4 COMMON COURIER ALS COURIER |
| 5   | 4/25/19 | 2100 | 6 COMMON COURIER ALS COURIER |
| 7   |         |      | 8                            |
| 9   |         |      | 10                           |

\* G=Grab; C=Composite \*\*Matrix - AL=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater  
ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057  
Rev 10/14





301 Fulling Mill Road  
 Middletown, PA 17057  
 P: (717) 944-5541  
 F: (717) 944-1430

# Condition of Sample Receipt Form

Client: AFCOM Work Order #: 3029976 Initials: CW Date: 4-26-19

- |  |             |            |           |
|--|-------------|------------|-----------|
| 1. Were airbills / tracking numbers present and recorded?.....   | <u>NONE</u> | YES        | NO        |
| Tracking number: _____   |             |            |           |
| 2. Are Custody Seals on shipping containers intact?.....   | <u>NONE</u> | <u>YES</u> | NO        |
| 3. Are Custody Seals on sample containers intact?.....   | <u>NONE</u> | YES        | NO        |
| 4. Is there a COC (Chain-of-Custody) present?.....   |             | <u>YES</u> | NO        |
| 5. Are the COC and bottle labels complete, legible and in agreement?.....  |             | <u>YES</u> | NO        |
| 5a. Does the COC contain sample locations?.....  |             | <u>YES</u> | NO        |
| 5b. Does the COC contain date and time of sample collection for all samples?.....  |             | <u>YES</u> | NO        |
| 5c. Does the COC contain sample collectors name?.....  |             | <u>YES</u> | NO        |
| 5d. Does the COC note the type(s) of preservation for all bottles?.....  |             | <u>YES</u> | NO        |
| 5e. Does the COC note the number of bottles submitted for each sample?.....  |             | <u>YES</u> | NO        |
| 5f. Does the COC note the type of sample, composite or grab?.....  |             | <u>YES</u> | NO        |
| 5g. Does the COC note the matrix of the sample(s)?.....  |             | <u>YES</u> | NO        |
| 6. Are all aqueous samples requiring preservation preserved correctly?.....  | <u>N/A</u>  | <u>YES</u> | NO        |
| 7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?.....             |             | <u>YES</u> | NO        |
| 8. Are all samples within holding times for the requested analyses?.....   |             | <u>YES</u> | NO        |
| 9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... |             | <u>YES</u> | NO        |
| 10. Did we receive trip blanks ( applies only for methods EPA S04, EPA 524.2 and 1631E (LL Hg)?.....                     | <u>N/A</u>  | <u>YES</u> | NO        |
| 11. Were the samples received on ice?.....   |             | <u>YES</u> | NO        |
| 12. Were sample temperatures measured at 0.0-6.0°C.....  |             | <u>YES</u> | NO        |
| 13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below.....                          |             | YES        | <u>NO</u> |
| 13a. Are the samples required for SDWA compliance reporting?.....  | <u>N/A</u>  | YES        | NO        |
| 13b. Did the client provide a SDWA PWS ID#?.....   | <u>N/A</u>  | YES        | NO        |
| 13c. Are all aqueous unpreserved SDWA samples pH 5-9?.....   | <u>N/A</u>  | YES        | NO        |
| 13d. Did the client provide the SDWA sample location ID/Description?.....  | <u>N/A</u>  | YES        | NO        |
| 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?.....  | <u>N/A</u>  | YES        | NO        |

Cooler #: 1  
 Temperature (°C): 2  
 Thermometer ID: 441

COMMENTS (Required for all NO responses above and any sample non-conformance):  
DW matrix with 2619





May 02, 2019

Service Request No: R1903709

Vanessa Badman  
ALS Environmental  
34 Dogwood Lane  
Middletown, PA 17057

**Laboratory Results for: UR115: 3029976**

Dear Vanessa,

Enclosed are the results of the sample(s) submitted to our laboratory April 27, 2019  
For your reference, these analyses have been assigned our service request number **R1903709**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at [Janice.Jaeger@alsglobal.com](mailto:Janice.Jaeger@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Janice Jaeger  
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
PHONE +1 585 288 5380 FAX +1 585 288 8475  
ALS Group USA, Corp.  
dba ALS Environmental





## Narrative Documents

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water

**Service Request:** R1903709  
**Date Received:** 04/27/2019

**CASE NARRATIVE**

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

**Sample Receipt:**

Eleven water samples were received for analysis at ALS Environmental on 04/27/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

**Semivolatiles by GC/MS:**

Method 680, 05/01/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 05/01/2019: The control limits were exceeded for analytes in the closing Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, 05/01/2019, R1903709-011: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. This internal is not used to quantitate any target compounds, therefore, data is not significantly affected and no further corrective action was appropriate.

Method 680, 04/30/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/30/2019: The control limits were exceeded for analytes in the closing Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, 04/30/2019, R1903709-002: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. This internal is not used to quantitate any target compounds, therefore, data is not significantly affected and no further corrective action was appropriate.

Approved by \_\_\_\_\_

Date 05/02/2019

**SAMPLE DETECTION SUMMARY**

**CLIENT ID: 3029976 001 Lab ID: R1903709-001**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0042  | J    | 0.0024 | 0.0052 | ug/L   | 680    |

**CLIENT ID: 3029976 003 Lab ID: R1903709-002**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0048  | J    | 0.0025 | 0.0054 | ug/L   | 680    |

**CLIENT ID: 3029976 004 Lab ID: R1903709-003**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0068  |      | 0.0025 | 0.0053 | ug/L   | 680    |

**CLIENT ID: 3029976 006 Lab ID: R1903709-004**

| Analyte                     | Results | Flag | MDL    | MRL    | Un its | Method |
|-----------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total    | 0.021   |      | 0.0023 | 0.0047 | ug/L   | 680    |
| Monochlorobiphenyls, Total  | 0.024   |      | 0.0027 | 0.0047 | ug/L   | 680    |
| Tetrachlorobiphenyls, Total | 0.039   |      | 0.0030 | 0.0094 | ug/L   | 680    |
| Trichlorobiphenyls, Total   | 0.015   |      | 0.0011 | 0.0047 | ug/L   | 680    |

**CLIENT ID: 3029976 008 Lab ID: R1903709-006**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0054  | J    | 0.0025 | 0.0054 | ug/L   | 680    |

**CLIENT ID: 3029976 009 Lab ID: R1903709-007**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0065  |      | 0.0025 | 0.0054 | ug/L   | 680    |

**CLIENT ID: 3029976 010 Lab ID: R1903709-008**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0032  | J    | 0.0025 | 0.0053 | ug/L   | 680    |

**CLIENT ID: 3029976 012 Lab ID: R1903709-009**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0042  | J    | 0.0025 | 0.0053 | ug/L   | 680    |

**CLIENT ID: 3029976 013 Lab ID: R1903709-010**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0048  | J    | 0.0025 | 0.0054 | ug/L   | 680    |

**CLIENT ID: 3029976 014 Lab ID: R1903709-011**

| Analyte                  | Results | Flag | MDL    | MRL    | Un its | Method |
|--------------------------|---------|------|--------|--------|--------|--------|
| Dichlorobiphenyls, Total | 0.0047  | J    | 0.0025 | 0.0053 | ug/L   | 680    |



## Sample Receipt Information

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



**Client:** ALS Environmental - US  
**Project:** UR115: 3029976

**Service Request:** R1903709

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R1903709-001    | 3029976 001             | 4/24/2019   | 1520        |
| R1903709-002    | 3029976 003             | 4/24/2019   | 1525        |
| R1903709-003    | 3029976 004             | 4/24/2019   | 1600        |
| R1903709-004    | 3029976 006             | 4/25/2019   | 1000        |
| R1903709-005    | 3029976 007             | 4/25/2019   | 1055        |
| R1903709-006    | 3029976 008             | 4/25/2019   | 0945        |
| R1903709-007    | 3029976 009             | 4/25/2019   | 1015        |
| R1903709-008    | 3029976 010             | 4/25/2019   | 0905        |
| R1903709-009    | 3029976 012             | 4/25/2019   | 0925        |
| R1903709-010    | 3029976 013             | 4/25/2019   | 0850        |
| R1903709-011    | 3029976 014             | 4/25/2019   | 0820        |



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## CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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|              |    |
|--------------|----|
| COC #:       | 1  |
|              | of |
| ALS Quote #: | 2  |

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.

|   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
|---|--|--|--|------|----------------------------|----------|---|---------|-------|--|--|--|--|--|---|--|--|-------------------------|--|--|--|--|
| Client Name: ALS Environmental  |  |  | Container Type: AV   |      |                            |          |   |         |       |  |  |  |  |  | Receipt Information (completed by Receiving Lab)                                    |  |  |                         |  |  |  |  |
| Address: 34 Dogwood Lane<br>Middletown, PA 17057  |  |  | Container Size: 1L   |      |                            |          |   |         |       |  |  |  |  |  | Cooler Temp: _____ Therm ID: _____  |  |  |                         |  |  |  |  |
| Contact: Vanessa Badman   |  |  | Preservative: None   |      |                            |          |   |         |       |  |  |  |  |  | No. of Coolers: _____ Y N Initial   |  |  |                         |  |  |  |  |
| Phone#: (717) 944-5541  |  |  | ANALYSES/METHOD REQUESTED  |      |                            |          |   |         |       |  |  |  |  |  | Custody Seals Present?  |  |  |                         |  |  |  |  |
| Project Name#: UR115: 3029976   |  |  | *Report to the MDL, QC lab report needed, EQUIS EDD and BASIC EDD. |      |                            |          |   |         |       |  |  |  |  |  | (if present) Seals Intact?  |  |  |                         |  |  |  |  |
| BIN To: ALS Environmental   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  | Received on Ice?  |  |  |                         |  |  |  |  |
| TAT: <input type="checkbox"/> Normal-Standard TAT is 10-12 business days.<br><input checked="" type="checkbox"/> Rush-Subject to ALS approval and surcharges. |  |  |  |      |                            |          |   |         |       |  |  |  |  |  | COCLabels Complete/Accurate?  |  |  |                         |  |  |  |  |
| Date Required: 5/6/2019 Approved By: _____  |  |  |  |      |                            |          |   |         |       |  |  |  |  |  | Cont. in Good Cond.?  |  |  |                         |  |  |  |  |
| Email? <input type="checkbox"/> -Y  |  |  | Enter Number of Containers Per Sample or Field Results Below.      |      |                            |          |   |         |       |  |  |  |  |  | Correct Containers?   |  |  |                         |  |  |  |  |
| Fax? <input type="checkbox"/> -Y No.:   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  | Correct Sample Volumes?   |  |  |                         |  |  |  |  |
| Sample Description/Location<br><small>(as it will appear on the lab report)</small>   |  |  | Sample Date  | Time | *G or C                    | **Matrix |   |         |       |  |  |  |  |  |   |  |  | Correct Preservation?   |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  |   |  |  | Headspace/Volatilities? |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  |   |  |  | Courier/Tracking #:     |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  |  |  |   |  |  | Sample/COC Comments     |  |  |  |  |
| 1 3029976 001 (MS/MSD)  |  |  | 4/24/19  | 1520 | G                          | WT       | 6 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 2 3029976 003   |  |  | 4/24/19  | 1525 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  | Sub to ALS Rochester   |  |  |
| 3 3029976 004   |  |  | 4/24/19  | 1600 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 4 3029976 006   |  |  | 4/25/19  | 1000 | G                          | WT       | 1 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 5 3029976 007   |  |  | 4/25/19  | 1055 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 6 3029976 008   |  |  | 4/25/19  | 0945 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  | <b>R1903709 5</b><br>ALS Environmental<br>UR115: 3029976<br>   |  |  |
| 7 3029976 009   |  |  | 4/25/19  | 1015 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 8 3029976 010   |  |  | 4/25/19  | 0905 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 9 3029976 012   |  |  | 4/25/19  | 0925 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  | ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor<br><input type="checkbox"/> Composite_Sampling <input type="checkbox"/> Rental_Equipment<br><input type="checkbox"/> Other: |  |  |
| 10 3029976 013  |  |  | 4/25/19  | 0850 | G                          | WT       | 2 | *       |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| Project Comments:   |  |  | LOGGED BY (signature):   |      |                            |          |   | DATE    | #     |  |  |  |  |  |   |  |  |                         |  |  |  |  |
|   |  |  | REVIEWED BY (signature):   |      |                            |          |   | DATE    | #     |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| Relinquished By / Company Name  |  |  | Date   | Time | Received By / Company Name |          |   | Date    | Time  |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 1 <i>[Signature]</i>  |  |  | 4-26-19  | 1500 | 2 <i>[Signature]</i> ALS   |          |   | 4/27/19 | 09:00 |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 3   |  |  |  |      | 6                          |          |   |         |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 5   |  |  |  |      | 8                          |          |   |         |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 7   |  |  |  |      | 10                         |          |   |         |       |  |  |  |  |  |   |  |  |                         |  |  |  |  |
| 9   |  |  |  |      |                            |          |   |         |       |  |  |  | Data Deliverables: <input type="checkbox"/> Standard<br><input checked="" type="checkbox"/> CLP-like<br><input type="checkbox"/> USACE |  | Special Processing: USACE <input type="checkbox"/><br>Navy <input type="checkbox"/> |  | State Samples Collected In: <input type="checkbox"/> NY<br><input type="checkbox"/> NJ |                         |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  | Reportable to PADEP? Yes <input type="checkbox"/>  |  | Sample Disposal: Lab <input checked="" type="checkbox"/>                            |  | <input type="checkbox"/> PA<br><input type="checkbox"/> NC                             |                         |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  | PWSID # _____  |  | Special: <input type="checkbox"/>   |  | <input checked="" type="checkbox"/> MD   |                         |  |  |  |  |
|   |  |  |  |      |                            |          |   |         |       |  |  |  | EDDS: Format Type: EQUIS EDD/BASIC EDD   |  |   |  |  |                         |  |  |  |  |

\*G=Grab, C=Composite \*\*Matrix - AI=Air, DW=Drinking Water, GW=Groundwater, OI=Oil, OL=Other Liquid, SL=Sludge, SO=Sod, WP=Wipe, WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04







# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

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| COC #:       | 2  |
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| ALS Quote #: | 2  |

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|   |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|---|--------------------------|---------|---|--|--|---|--|--|--|--|--|---|---|---------|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|
| Client Name: ALS Environmental  |                          |         | Container Type: AN                                    |  | <b>ANALYSES/METHOD REQUESTED</b><br><br>680 (PCB Homologs)<br>*Report to the MDL, QC lab report needed, EQUIS EDD and BASIC EDD. |   |  |  |  | Receipt Information (completed by Receiving Lab) |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Address: 34 Dogwood Lane<br>Middletown, PA 17057                                    |                          |         | Container Size: 1L                                    |  |  |   |  |  |  | Cooler Temp: _____ Therm ID: _____               |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Contact: Vanessa Badman   |                          |         | Preservative: None                                    |  |  |   |  |  |  | No. of Coolers: _____ Y N Initial                |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Phone#: (717) 944-5541  |                          |         | *G or C<br>**Matrix                                   |  |  | Custody Seals Present? <input type="checkbox"/> |  |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 20px;">Y</td><td style="width: 20px;">N</td><td style="width: 20px;">Initial</td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> <tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td></td></tr> </table> |  |  | Y | N | Initial | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Y   | N                        | Initial |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| <input type="checkbox"/>  | <input type="checkbox"/> |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Project Name/ #: UR115: 3029976   |                          |         | COCLabels Complete/Accurate? <input type="checkbox"/> |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Bill To: ALS Environmental  |                          |         | Received on Ice? <input type="checkbox"/>             |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| TAT <input type="checkbox"/> Normal-Standard TAT is 10-12 business days.            |                          |         | Cont. in Good Cond.? <input type="checkbox"/>         |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Date Required: 5/6/2019 Approved By: _____  |                          |         | Correct Containers? <input type="checkbox"/>          |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Email? <input type="checkbox"/> -Y  |                          |         | Correct Sample Volumes? <input type="checkbox"/>      |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Fax? <input type="checkbox"/> -Y No.:   |                          |         | Correct Preservation? <input type="checkbox"/>        |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Sample Description/Location<br><small>(as it will appear on the lab report)</small> |                          |         | Sample Date   |  |  | Sample Time                                     |  |  | Courier/Tracking #:  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | Sample/COC Comments  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 11 3029976 014  |                          |         | 4/25/19   |  |  | 0820  |  |  | G WT 2   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 12  |                          |         |   |  |  |   |  |  | Sub to ALS Rochester   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 13  |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 14  |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 15  |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 16  |                          |         |   |  |  |   |  |  | <b>R1903709 5</b><br>ALS Environmental<br>UR115: 3029976<br>   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 17  |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 18  |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 19  |                          |         |   |  |  |   |  |  | ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 20  |                          |         |   |  |  |   |  |  | <input type="checkbox"/> Composite_Sampling <input type="checkbox"/> Rental_Equipment  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | <input type="checkbox"/> Other:  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Project Comments:   |                          |         | LOGGED BY (signature):                                |  |  | DATE:   |  |  | TIME:  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         | REVIEWED BY (signature):                              |  |  | DATE:   |  |  | TIME:  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| Relinquished By / Company Name  |                          |         | Date  |  |  | Time  |  |  | Received By / Company Name   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 1 <i>[Signature]</i>  |                          |         | 4-26-19   |  |  | 1500  |  |  | 2 <i>[Signature]</i> ALS   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 3   |                          |         |   |  |  |   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 5   |                          |         |   |  |  | 6   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 7   |                          |         |   |  |  | 8   |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
| 9   |                          |         |   |  |  | 10  |  |  |  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | Data Deliverables: <input type="checkbox"/> Standard <input checked="" type="checkbox"/> CLP-like <input type="checkbox"/> USACE   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | Special Processing: USACE <input type="checkbox"/> Navy <input type="checkbox"/> NY <input type="checkbox"/> NJ <input type="checkbox"/> PA <input type="checkbox"/> NC <input checked="" type="checkbox"/> MD   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | Reportable to PADEP? Yes <input type="checkbox"/> No <input type="checkbox"/> Sample Disposal: Lab <input checked="" type="checkbox"/> Special <input type="checkbox"/>  |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |
|   |                          |         |   |  |  |   |  |  | PWSID # _____ EDDS: Format Type: EQUIS EDD/BASIC EDD   |  |  |   |   |         |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |                          |                          |  |

\* G=Grab; C=Composite \*\* Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04

8 of 35



# Cooler Receipt and Preservation Check Form

R1903709

5

ALB Environmental  
UR116: 3026976



Project/Client ALB-Middletown Folder Number R1903709

Cooler received on 4/27/19 by: JE

COURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |  |          |          |
|---|--|----------|----------|
| 1 | Were Custody seals on outside of cooler?             | Y        | <u>N</u> |
| 2 | Custody papers properly completed (ink, signed)?     | <u>Y</u> | N        |
| 3 | Did all bottles arrive in good condition (unbroken)? | Y        | N        |
| 4 | Circle: <u>Wet Ice</u> Dry Ice Gel packs present?    | <u>Y</u> | N        |

|    |   |         |               |           |           |
|----|---|---------|---------------|-----------|-----------|
| 5a | Perchlorate samples have required headspace?      | Y       | N             | <u>NA</u> |           |
| 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y       | N             | <u>NA</u> |           |
| 6  | Where did the bottles originate?                  | ALS/ROC | <u>CLIENT</u> |           |           |
| 7  | Soil VOA received as:                             | Bulk    | Encore        | 5035set   | <u>NA</u> |

8. Temperature Readings Date: 4/27/19 Time: 09:25 ID: IR#7 IR#10 From: Temp Blank Sample Bottle

|                               |                 |             |             |             |             |             |     |
|-------------------------------|-----------------|-------------|-------------|-------------|-------------|-------------|-----|
| Observed Temp (°C)            | <u>3.6</u>      | <u>4.3</u>  | <u>2.6</u>  | <u>3.2</u>  | <u>3.5</u>  | <u>2.1</u>  |     |
| Correction Factor (°C)        | <u>-0.2</u>     | <u>-0.2</u> | <u>-0.2</u> | <u>-0.2</u> | <u>-0.2</u> | <u>-0.2</u> |     |
| Corrected Temp (°C)           | <u>3.4</u>      | <u>4.1</u>  | <u>2.4</u>  | <u>3.0</u>  | <u>3.3</u>  | <u>1.9</u>  |     |
| Temp from: Type of bottle     | <u>11 Amber</u> |             |             |             |             |             |     |
| Within 0-6°C?                 | <u>Y</u>        | <u>N</u>    | <u>Y</u>    | <u>N</u>    | <u>Y</u>    | <u>N</u>    | Y N |
| If <0°C, were samples frozen? | Y               | N           | Y           | N           | Y           | N           | Y N |

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule & Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:                     

All samples held in storage location: R-002 by JE on 4/27/19 at                       
5035 samples placed in storage location:                      by                      on                      at                     

Cooler Breakdown/Preservation Check\*\*: Date: 4/27/19 Time: 10:20 by: JE

- 9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- 10. Did all bottle labels and tags agree with custody papers? YES NO
- 11. Were correct containers used for the tests indicated? YES NO
- 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
- 13. Air Samples: Cassettes / Tubes Intact with MS?                      Canisters Pressurized                      Tedlar® Bags inflated N/A

| pH                    | Lot of test paper | Reagent                                       | Preserved? |    | Lot Received   | Exp | Sample ID Adjusted | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|---|------------|----|--|-----|--------------------|------------|-----------|----------|
|                       |                   |   | Yes        | No |  |     |                    |            |           |          |
| ≥12                   |                   | NaOH  |            |    |  |     |                    |            |           |          |
| ≥2                    |                   | HNO <sub>3</sub>                              |            |    |  |     |                    |            |           |          |
| ≤2                    |                   | H <sub>2</sub> SO <sub>4</sub>                |            |    |  |     |                    |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |            |    |  |     |                    |            |           |          |
| 5-9                   |                   | For 608pest                                   |            |    | No=Notify for 3day   |     |                    |            |           |          |
| Residual Chlorine (-) |                   | For CN, Phenol, 625, 608pest, 522             |            |    | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (625, 608, CN), ascorbic (phenol). |     |                    |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |            |    |  |     |                    |            |           |          |
|                       |                   | Zn Acetate                                    | -          | -  |  |     |                    |            |           |          |
|                       |                   | HCl   | **         | ** |  |     |                    |            |           |          |

\*\*VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives)

Bottle lot numbers: Client Bottles  
Explain all Discrepancies/ Other Comments:                     

|       |        |
|-------|--------|
| CLRES | BULK   |
| DO    | FLDT   |
| HPROD | HGFB   |
| HTR   | LL354J |
| PH    | SUB    |
| SO3   | MARRS  |
| ALS   | REV    |

Labels secondary reviewed by: JE  
PC Secondary Review:                      4/29/19 \*significant air bubbles: VOA > 5-6 mm ; WC > 1 in. diameter





## Miscellaneous Forms

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



## REPORT QUALIFIERS AND DEFINITIONS

|  |  |
|--|--|
| <p><b>U</b> Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p><b>J</b> Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration &gt;40% difference between two GC columns (pesticides/Aroclors).</p> <p><b>B</b> Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p><b>E</b> Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p><b>E</b> Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p><b>D</b> Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.</p> <p><b>*</b> Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.</p> <p><b>H</b> Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p><b>#</b> Spike was diluted out</p> | <p><b>+</b> Correlation coefficient for MSA is &lt;0.995.</p> <p><b>N</b> Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p><b>N</b> Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p><b>S</b> Concentration has been determined using Method of Standard Additions (MSA).</p> <p><b>W</b> Post-Digestion Spike recovery is outside control limits and the sample absorbance is &lt;50% of the spike absorbance.</p> <p><b>P</b> Concentration &gt;40% difference between the two GC columns.</p> <p><b>C</b> Confirmed by GC/MS</p> <p><b>Q</b> DoD reports: indicates a pesticide/Aroclor is not confirmed (<math>\geq 100\%</math> Difference between two GC columns).</p> <p><b>X</b> See Case Narrative for discussion.</p> <p><b>MRL</b> Method Reporting Limit. Also known as:</p> <p><b>LOQ</b> Limit of Quantitation (LOQ)<br/>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p><b>MDL</b> Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).</p> <p><b>LOD</b> Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p><b>ND</b> Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.</p> |
|--|--|



### Rochester Lab ID # for State Certifications<sup>1</sup>

|                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| Connecticut ID # PH0556 | Maine ID #NY0032        | Pennsylvania ID# 68-786 |
| Delaware Approved       | New Hampshire ID # 2941 | Rhode Island ID # 158   |
| DoD ELAP #65817         | New York ID # 10145     | Virginia #460167        |
| Florida ID # E87674     | North Carolina #676     |                         |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/us/new-york/rochester-environmental>

# ALS Laboratory Group

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## Acronyms

|            |  |
|------------|--|
| ASTM       | American Society for Testing and Materials   |
| ACLA       | American Association for Laboratory Accreditation  |
| CARB       | California Air Resources Board   |
| CAS Number | Chemical Abstract Service registry Number  |
| CFC        | Chlorofluorocarbon   |
| CFU        | Colony-Forming Unit  |
| DEC        | Department of Environmental Conservation   |
| DEQ        | Department of Environmental Quality  |
| DHS        | Department of Health Services  |
| DOE        | Department of Ecology  |
| DOH        | Department of Health   |
| EPA        | U.S. Environmental Protection Agency   |
| ELAP       | Environmental Laboratory Accreditation Program   |
| GC         | Gas Chromatography   |
| GC/MS      | Gas Chromatography/Mass Spectrometry   |
| LUFT       | Leaking Underground Fuel Tank  |
| M          | Modified   |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit   |
| MPN        | Most Probable Number   |
| MRL        | Method Reporting Limit   |
| NA         | Not Applicable   |
| NC         | Not Calculated   |
| NCAI       | National Council of the Paper Industry for Air and Stream Improvement  |
| ND         | Not Detected   |
| NIOSH      | National Institute for Occupational Safety and Health  |
| PQL        | Practical Quantitation Limit   |
| RCRA       | Resource Conservation and Recovery Act   |
| SIM        | Selected Ion Monitoring  |
| TPH        | Total Petroleum Hydrocarbons   |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

Analyst Summary report

**Client:** ALS Environmental - US  
**Project:** UR115-30299761

**Service Request:** R1903709

**Sample Name:** 3029976 001  
**Lab Code:** R1903709-001  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 003  
**Lab Code:** R1903709-002  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 004  
**Lab Code:** R1903709-003  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 006  
**Lab Code:** R1903709-004  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 007  
**Lab Code:** R1903709-005  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

Analyst Summary report

**Client:** ALS Environmental - US  
**Project:** UR115: 30299761

**Service Request:** R1903709

**Sample Name:** 3029976 008  
**Lab Code:** R1903709-006  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 009  
**Lab Code:** R1903709-007  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 010  
**Lab Code:** R1903709-008  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 012  
**Lab Code:** R1903709-009  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029976 013  
**Lab Code:** R1903709-010  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ



Analyst Summary report

**Client:** ALS Environmental - US  
**Project:** UR115-30299761

**Service Request:** R1903709

**Sample Name:** 3029976 014  
**Lab Code:** R1903709-011  
**Sample Matrix:** Water

**Date Collected:** 04/25/19  
**Date Received:** 04/27/19

**Analysis Method**  
630

**Extracted/Digested By**  
BALLGEIER

**Analyzed By**  
JMISIUREWICZ



# INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

## Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9014 Cyanide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Acid Soluble     | 9030B              |
| 9056A Bomb (Halogens)         | 5050A              |
| 9066 Manual Distillation      | 9065               |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

## Solid/Soil/Non-Aqueous Matrix

| Analytical Method   | Preparation Method |
|---|--------------------|
| 6010C   | 3050B              |
| 6020A   | 3050B              |
| 6010C TCLP (1311) extract                                     | 3005A/3010A        |
| 6010 SPLP (1312) extract                                      | 3005A/3010A        |
| 7196A   | 3060A              |
| 7199  | 3060A              |
| 9056A Halogens/Halides  | 5050               |
| 300.0 Anions/ 350.1 / 353.2/ SM 2320B/ SM 5210B/ 9056A Anions | DI extraction      |

For analytical methods not listed, the preparation method is the same as the analytical method reference.



## Sample Results

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





## Semivolatile Organic Compounds by GC/MS

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976-001  
**Lab Code:** R1903709-001

**Service Request:** R1903709  
**Date Collected:** 04/24/19 15:20  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.026  | 0.012  | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0042 J</b> | 0.0052 | 0.0024 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0043 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.010  | 0.0029 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0052 | 0.0029 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.021  | 0.0078 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0050 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.010  | 0.0017 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.010  | 0.0032 | 1    | 04/30/19 10:35 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0052 | 0.0012 | 1    | 04/30/19 10:35 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 32    | 46 - 130       | 04/30/19 10:35 |   |
| 4,4'-DDT            | 57    | 30 - 194       | 04/30/19 10:35 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976-003  
**Lab Code:** R1903709-002

**Service Request:** R1903709  
**Date Collected:** 04/24/19 15:25  
**Date Received:** 04/27/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0048 J</b> | 0.0054 | 0.0025 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0080 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0052 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 04/30/19 11:04 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 04/30/19 11:04 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 74    | 46 - 130       | 04/30/19 11:04 |   |
| 4,4'-DDT            | 58    | 30 - 194       | 04/30/19 11:04 |   |



Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976 004  
**Lab Code:** R1903709-003

**Service Request:** R1903709  
**Date Collected:** 04/24/19 16:00  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.026  | 0.012  | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0068</b> | 0.0053 | 0.0025 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0044 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0029 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0053 | 0.0029 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.021  | 0.0078 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0051 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0017 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0032 | 1    | 04/30/19 13:00 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0053 | 0.0012 | 1    | 04/30/19 13:00 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 77    | 46 - 130       | 04/30/19 13:00 |   |
| 4,4'-DDT            | 37    | 30 - 194       | 04/30/19 13:00 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976.006  
**Lab Code:** R1903709-004

**Service Request:** R1903709  
**Date Collected:** 04/25/19 10:00  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result       | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|--------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U         | 0.024  | 0.011  | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.021</b> | 0.0047 | 0.0023 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U         | 0.014  | 0.0041 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U         | 0.0094 | 0.0027 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | <b>0.024</b> | 0.0047 | 0.0027 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U         | 0.019  | 0.0074 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U         | 0.014  | 0.0048 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U         | 0.0094 | 0.0016 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | <b>0.039</b> | 0.0094 | 0.0030 | 1    | 04/29/19 13:48 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | <b>0.015</b> | 0.0047 | 0.0011 | 1    | 04/29/19 13:48 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 33    | 46 - 130       | 04/29/19 13:48 |   |
| 4,4'-DDT            | 33    | 30 - 194       | 04/29/19 13:48 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976 007  
**Lab Code:** R1903709-005

**Service Request:** R1903709  
**Date Collected:** 04/25/19 10:55  
**Date Received:** 04/30/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|--------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U   | 0.024  | 0.011  | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | ND U   | 0.0047 | 0.0023 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U   | 0.014  | 0.0041 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U   | 0.0094 | 0.0027 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U   | 0.0047 | 0.0027 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U   | 0.019  | 0.0074 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U   | 0.014  | 0.0048 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U   | 0.0094 | 0.0016 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U   | 0.0094 | 0.0030 | 1    | 04/29/19 14:17 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U   | 0.0047 | 0.0011 | 1    | 04/29/19 14:17 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 74    | 46 - 130       | 04/29/19 14:17 |   |
| 4,4'-DDT            | 37    | 30 - 194       | 04/29/19 14:17 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976-008  
**Lab Code:** R1903709-006

**Service Request:** R1903709  
**Date Collected:** 04/25/19 09:45  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0054 J</b> | 0.0054 | 0.0025 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0080 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0052 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 04/30/19 13:59 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 04/30/19 13:59 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 30    | 46 - 130       | 04/30/19 13:59 |   |
| 4,4'-DDT            | 34    | 30 - 194       | 04/30/19 13:59 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976.009  
**Lab Code:** R1903709-007

**Service Request:** R1903709  
**Date Collected:** 04/25/19 10:15  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.027  | 0.012  | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0065</b> | 0.0054 | 0.0025 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0045 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0030 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0054 | 0.0030 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.022  | 0.0080 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0052 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0018 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0033 | 1    | 05/01/19 10:54 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0054 | 0.0012 | 1    | 05/01/19 10:54 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 30    | 46 - 130       | 05/01/19 10:54 |   |
| 4,4'-DDT            | 40    | 30 - 194       | 05/01/19 10:54 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976 010  
**Lab Code:** R1903709-008

**Service Request:** R1903709  
**Date Collected:** 04/25/19 09:05  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.026  | 0.012  | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0032 J</b> | 0.0053 | 0.0025 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0044 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0029 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0053 | 0.0029 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.021  | 0.0078 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0051 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0017 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0032 | 1    | 04/30/19 15:25 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0053 | 0.0012 | 1    | 04/30/19 15:25 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 75    | 46 - 130       | 04/30/19 15:25 |   |
| 4,4'-DDT            | 37    | 30 - 194       | 04/30/19 15:25 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976 012  
**Lab Code:** R1903709-009

**Service Request:** R1903709  
**Date Collected:** 04/25/19 09:25  
**Date Received:** 04/27/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.026  | 0.012  | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0042 J</b> | 0.0053 | 0.0025 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0044 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0029 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0053 | 0.0029 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.021  | 0.0078 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0051 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0017 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0032 | 1    | 05/01/19 12:50 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0053 | 0.0012 | 1    | 05/01/19 12:50 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 33    | 46 - 130       | 05/01/19 12:50 |   |
| 4,4'-DDT            | 35    | 30 - 194       | 05/01/19 12:50 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976-013  
**Lab Code:** R1903709-010

**Service Request:** R1903709  
**Date Collected:** 04/25/19 08:50  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0048 J</b> | 0.0054 | 0.0025 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0080 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0052 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 05/01/19 13:49 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 05/01/19 13:49 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 71    | 46 - 130       | 05/01/19 13:49 |   |
| 4,4'-DDT            | 35    | 30 - 194       | 05/01/19 13:49 |   |



Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** 3029976-014  
**Lab Code:** R1903709-011

**Service Request:** R1903709  
**Date Collected:** 04/25/19 08:20  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.026  | 0.012  | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0047 J</b> | 0.0053 | 0.0025 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0044 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0029 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0053 | 0.0029 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.021  | 0.0078 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0051 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0017 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0032 | 1    | 05/01/19 14:47 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0053 | 0.0012 | 1    | 05/01/19 14:47 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 73    | 46 - 130       | 05/01/19 14:47 |   |
| 4,4'-DDT            | 30    | 30 - 194       | 05/01/19 14:47 |   |





## QC Summary Forms

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





## Semivolatile Organic Compounds by GC/MS

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)



**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water

**Service Request:** R1903709

**SURROGATE RECOVERY SUMMARY**

**PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry**

**Analysis Method:** 680  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | gamma-BHC (Lindane) | 4,4'-DDT |
|------------------------------|--------------|---------------------|----------|
|                              |              | 46-130              | 30-194   |
| 3029976 001                  | R1903709-001 | 82                  | 67       |
| 3029976 003                  | R1903709-003 | 74                  | 58       |
| 3029976 004                  | R1903709-003 | 77                  | 37       |
| 3029976 006                  | R1903709-004 | 83                  | 93       |
| 3029976 007                  | R1903709-005 | 74                  | 87       |
| 3029976 008                  | R1903709-006 | 80                  | 34       |
| 3029976 009                  | R1903709-007 | 80                  | 40       |
| 3029976 010                  | R1903709-008 | 75                  | 37       |
| 3029976 012                  | R1903709-009 | 83                  | 35       |
| 3029976 013                  | R1903709-010 | 71                  | 35       |
| 3029976 014                  | R1903709-011 | 73                  | 30       |
| Method Blank                 | RQ1903856-01 | 80                  | 92       |
| Lab Control Sample           | RQ1903856-02 | 77                  | 93       |
| Duplicate Lab Control Sample | RQ1903856-03 | 77                  | 86       |
| 3029976 001 MS               | RQ1903856-04 | 87                  | 77       |
| 3029976 001 DMS              | RQ1903856-05 | 82                  | 52       |

QA/QC Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water

**Service Request:** R1903709  
**Date Collected:** 04/24/19  
**Date Received:** 04/27/19  
**Date Analyzed:** 05/1/19  
**Date Extracted:** 04/28/19

Duplicate Matrix Spike Summary

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Sample Name:** 3029976 001 **Units:** ug/L  
**Lab Code:** R1903709-001 **Basis:** NA  
**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Matrix Spike<br>RQ1903856-04 |        |              |       | Duplicate Matrix Spike<br>RQ1903856-05 |              |       |        | % Rec | RPD | RPD Limit |
|-----------------------------|------------------------------|--------|--------------|-------|--|--------------|-------|--------|-------|-----|-----------|
|                             | Sample Result                | Result | Spike Amount | % Rec | Result                                 | Spike Amount | % Rec | Limits |       |     |           |
| Decachlorobiphenyl          | ND U                         | 1.13   | 1.36         | 83    | 1.22                                   | 1.36         | 90    | 10-112 | 8     | 30  |           |
| Dichlorobiphenyls, Total    | 0.0042 J                     | 0.213  | 0.272        | 77    | 0.202                                  | 0.272        | 73    | 31-119 | 5     | 30  |           |
| Heptachlorobiphenyls, Total | ND U                         | 0.574  | 0.815        | 70    | 0.567                                  | 0.815        | 70    | 17-118 | 1     | 30  |           |
| Hexachlorobiphenyls, Total  | ND U                         | 0.394  | 0.543        | 73    | 0.415                                  | 0.543        | 76    | 11-160 | 5     | 30  |           |
| Monochlorobiphenyls, Total  | ND U                         | 0.215  | 0.272        | 79    | 0.180                                  | 0.272        | 66    | 38-111 | 18    | 30  |           |
| Octachlorobiphenyls, Total  | ND U                         | 0.620  | 0.815        | 76    | 0.602                                  | 0.815        | 74    | 11-115 | 3     | 30  |           |
| Pentachlorobiphenyls, Total | ND U                         | 0.392  | 0.543        | 72    | 0.422                                  | 0.543        | 78    | 10-180 | 7     | 30  |           |
| Tetrachlorobiphenyls, Total | ND U                         | 0.379  | 0.543        | 70    | 0.391                                  | 0.543        | 72    | 14-153 | 3     | 30  |           |
| Trichlorobiphenyls, Total   | ND U                         | 0.204  | 0.272        | 75    | 0.207                                  | 0.272        | 76    | 10-173 | 2     | 30  |           |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.



Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1903856-01

**Service Request:** R1903709  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|--------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U   | 0.025  | 0.011  | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | ND U   | 0.0050 | 0.0023 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U   | 0.015  | 0.0041 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U   | 0.010  | 0.0027 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U   | 0.0050 | 0.0027 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U   | 0.020  | 0.0074 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U   | 0.015  | 0.0048 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U   | 0.010  | 0.0016 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U   | 0.010  | 0.0030 | 1    | 04/29/19 13:19 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U   | 0.0050 | 0.0011 | 1    | 04/29/19 13:19 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 30    | 46 - 130       | 04/29/19 13:19 |   |
| 4,4'-DDT            | 32    | 30 - 194       | 04/29/19 13:19 |   |

**Client:** ALS Environmental - US  
**Project:** UR115: 3029976  
**Sample Matrix:** Water

**Service Request:** R1903709  
**Date Analyzed:** 04/29/19

**Duplicate Lab Control Sample Summary**  
**PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry**

Units:ug/L  
 Basis:NA

| Analyte Name                | Analytical Method | Result | Lab Control Sample |       | Duplicate Lab Control Sample |              | % Rec Limits | RPD | RPD Limit |
|-----------------------------|-------------------|--------|--------------------|-------|------------------------------|--------------|--------------|-----|-----------|
|                             |                   |        | Spike Amount       | % Rec | Result                       | Spike Amount |              |     |           |
| Decachlorobiphenyl          | 680               | 1.03   | 1.25               | 82    | 0.989                        | 1.25         | 10-112       | 4   | 30        |
| Dichlorobiphenyls, Total    | 680               | 0.170  | 0.250              | 68    | 0.170                        | 0.250        | 31-119       | <1  | 30        |
| Heptachlorobiphenyls, Total | 680               | 0.524  | 0.750              | 70    | 0.496                        | 0.750        | 17-118       | 5   | 30        |
| Hexachlorobiphenyls, Total  | 680               | 0.349  | 0.500              | 70    | 0.343                        | 0.500        | 34-119       | 2   | 30        |
| Monochlorobiphenyls, Total  | 680               | 0.156  | 0.250              | 62    | 0.157                        | 0.250        | 28-111       | <1  | 30        |
| Octachlorobiphenyls, Total  | 680               | 0.566  | 0.750              | 75    | 0.547                        | 0.750        | 11-115       | 4   | 30        |
| Pentachlorobiphenyls, Total | 680               | 0.357  | 0.500              | 71    | 0.348                        | 0.500        | 33-120       | 3   | 30        |
| Tetrachlorobiphenyls, Total | 680               | 0.332  | 0.500              | 66    | 0.314                        | 0.500        | 26-122       | 6   | 30        |
| Trichlorobiphenyls, Total   | 680               | 0.173  | 0.250              | 69    | 0.174                        | 0.250        | 30-121       | <1  | 30        |



May 6, 2019

Mr. Naoum Tavantzis  
AECOM  
7 St.Paul Street  
16th Floor  
Baltimore, MD 21202

## Certificate of Analysis

|                 |                                  |               |                           |
|-----------------|----------------------------------|---------------|---------------------------|
| Project Name:   | <b>2018-MIDDLE RIVER COMPLEX</b> | Workorder:    | <b>3029818</b>            |
| Purchase Order: | <b>95840ACM</b>                  | Workorder ID: | <b>LMC MRC / 95840ACM</b> |

Dear Mr. Tavantzis:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, April 24, 2019.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vanessa N Badman (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Zachary Neigh , Ms. Holly Brown , Mr. Ravi Damera , Ms. Victoria Kirkpatrick

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*

Mrs. Vanessa N Badman  
Project Coordinator

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### SAMPLE SUMMARY

Workorder: 3029818 LMC MRC / 95840ACM

| Lab ID     | Sample ID           | Matrix | Date Collected  | Date Received   | Collected By        |
|------------|---------------------|--------|-----------------|-----------------|---------------------|
| 3029818001 | MRC-SW2A-042419     | Water  | 4/24/2019 10:40 | 4/24/2019 21:30 | Collected by Client |
| 3029818002 | MRC-SW1A-042419     | Water  | 4/24/2019 10:15 | 4/24/2019 21:30 | Collected by Client |
| 3029818003 | MRC-SW5B-S-042419   | Water  | 4/24/2019 11:20 | 4/24/2019 21:30 | Collected by Client |
| 3029818004 | MRC-SW5A1-S-042419  | Water  | 4/24/2019 11:45 | 4/24/2019 21:30 | Collected by Client |
| 3029818005 | MRC-SW5A2-S-042419  | Water  | 4/24/2019 12:00 | 4/24/2019 21:30 | Collected by Client |
| 3029818006 | TB-042419-1         | Water  | 4/24/2019 21:30 | 4/24/2019 21:30 | Collected by Client |
| 3029818007 | MRC-SW11B-S-042419  | Water  | 4/24/2019 14:00 | 4/24/2019 21:30 | Collected by Client |
| 3029818008 | MRC-SW13A-S-042419  | Water  | 4/24/2019 13:00 | 4/24/2019 21:30 | Collected by Client |
| 3029818009 | MRC-SW12A-S-042419  | Water  | 4/24/2019 13:20 | 4/24/2019 21:30 | Collected by Client |
| 3029818010 | MRC-SW11A-S-0424219 | Water  | 4/24/2019 13:35 | 4/24/2019 21:30 | Collected by Client |
| 3029818011 | TB-042419-2         | Water  | 4/24/2019 21:30 | 4/24/2019 21:30 | Collected by Client |
| 3029818012 | MRC-SW18A-S-042419  | Water  | 4/24/2019 12:45 | 4/24/2019 21:30 | Collected by Client |
| 3029818013 | MRC-SW16A-S-042419  | Water  | 4/24/2019 14:35 | 4/24/2019 21:30 | Collected by Client |
| 3029818014 | MRC-SW15A-S-042419  | Water  | 4/24/2019 14:20 | 4/24/2019 21:30 | Collected by Client |
| 3029818015 | TB-042419-3         | Water  | 4/24/2019 21:30 | 4/24/2019 21:30 | Collected by Client |

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 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**SAMPLE SUMMARY**

Workorder: 3029818 LMC MRC / 95840ACM

**Notes**

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

**Standard Acronyms/Flags**

|        |  |
|--------|--|
| J      | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte     |
| U      | Indicates that the analyte was Not Detected (ND)   |
| N      | Indicates presumptive evidence of the presence of a compound   |
| MDL    | Method Detection Limit   |
| PQL    | Practical Quantitation Limit   |
| RDL    | Reporting Detection Limit  |
| ND     | Not Detected - indicates that the analyte was Not Detected at the RDL  |
| Cntr   | Analysis was performed using this container  |
| RegLmt | Regulatory Limit   |
| LCS    | Laboratory Control Sample  |
| MS     | Matrix Spike   |
| MSD    | Matrix Spike Duplicate   |
| DUP    | Sample Duplicate   |
| %Rec   | Percent Recovery   |
| RPD    | Relative Percent Difference  |
| LOD    | DoD Limit of Detection   |
| LOQ    | DoD Limit of Quantitation  |
| DL     | DoD Detection Limit  |
| I      | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S)    | Surrogate Compound   |
| NC     | Not Calculated   |
| *      | Result outside of QC limits  |

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### PROJECT SUMMARY

Workorder: 3029818 LMC MRC / 95840ACM

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#### Workorder Comments

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Please see attached subcontracting from ALS ROC. VNB 4/26/19

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Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001**  
Sample ID: **MRC-SW2A-042419**

Date Collected: 4/24/2019 10:40 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 5.6J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Bromomethane                | 0.40J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001**

Date Collected: 4/24/2019 10:40

Matrix: Water

Sample ID: **MRC-SW2A-042419**

Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Tetrachloroethene          | 0.42J   | J    | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 13:55 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 13:55 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818001**  
 Sample ID: **MRC-SW2A-042419**

Date Collected: 4/24/2019 10:40 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-----------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                    | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| mp-Xylene                   | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)   | 116            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| 4-Bromofluorobenzene (S)    | 103            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| Dibromofluoromethane (S)    | 106            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| Toluene-d8 (S)              | 102            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/2/19 13:55 | DD              | A         |             |
| <b>SEMIVOLATILE SIM</b>     |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                 | 0.039J         | J           | ug/L         | 0.11          | 0.020 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 12:38    | GEC       | C           |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S) | 76.2           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 12:38    | GEC       | C           |
| Fluoranthene-d10 (S)        | 88.7           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 12:38    | GEC       | C           |



Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002**  
Sample ID: **MRC-SW1A-042419**

Date Collected: 4/24/2019 10:15 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 7.7J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002**  
Sample ID: **MRC-SW1A-042419**

Date Collected: 4/24/2019 10:15 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Tetrachloroethene          | 0.40J   | J    | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 14:18 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 14:18 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818002**  
Sample ID: **MRC-SW1A-042419**

Date Collected: 4/24/2019 10:15 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results        | Flag        | Units        | RDL           | MDL   | Method        | Prepared By     | Analyzed     | By              | Cntr      |             |
|-----------------------------|----------------|-------------|--------------|---------------|-------|---------------|-----------------|--------------|-----------------|-----------|-------------|
| o-Xylene                    | ND             |             | ug/L         | 1.0           | 0.33  | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| mp-Xylene                   | ND             |             | ug/L         | 2.0           | 0.52  | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)   | 114            |             | %            | 62 - 133      |       | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| 4-Bromofluorobenzene (S)    | 106            |             | %            | 79 - 114      |       | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| Dibromofluoromethane (S)    | 103            |             | %            | 78 - 116      |       | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| Toluene-d8 (S)              | 102            |             | %            | 76 - 127      |       | SW846 8260B   |                 | 5/2/19 14:18 | DD              | A         |             |
| <b>SEMIVOLATILE SIM</b>     |                |             |              |               |       |               |                 |              |                 |           |             |
| 1,4-Dioxane                 | 0.045J         | J           | ug/L         | 0.11          | 0.021 | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:13    | GEC       | C           |
| <i>Surrogate Recoveries</i> | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |       | <i>Method</i> | <i>Prepared</i> | <i>By</i>    | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 2-Methylnaphthalene-d10 (S) | 82.2           |             | %            | 29 - 112      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:13    | GEC       | C           |
| Fluoranthene-d10 (S)        | 91.4           |             | %            | 45 - 130      |       | 8270 SIM      | 5/1/19 09:05    | CAC          | 5/2/19 13:13    | GEC       | C           |

Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003**

Date Collected: 4/24/2019 11:20

Matrix: Water

Sample ID: **MRC-SW5B-S-042419**

Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 5.4J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003**

Date Collected: 4/24/2019 11:20

Matrix: Water

Sample ID: **MRC-SW5B-S-042419**

Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Tetrachloroethene          | 0.39J   | J    | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 14:41 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 14:41 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818003** Date Collected: 4/24/2019 11:20 Matrix: Water  
 Sample ID: **MRC-SW5B-S-042419** Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 115            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| 4-Bromofluorobenzene (S)      | 107            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| Dibromofluoromethane (S)      | 106            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| Toluene-d8 (S)                | 103            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/2/19 14:41  | DD              | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 11:20 | SUB             | B         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004**  
Sample ID: **MRC-SW5A1-S-042419**

Date Collected: 4/24/2019 11:45 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 5.8J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004**  
Sample ID: **MRC-SW5A1-S-042419**

Date Collected: 4/24/2019 11:45 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Tetrachloroethene          | 0.40J   | J    | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 15:04 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:04 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818004** Date Collected: 4/24/2019 11:45 Matrix: Water  
 Sample ID: **MRC-SW5A1-S-042419** Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 115            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| Dibromofluoromethane (S)      | 105            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| Toluene-d8 (S)                | 105            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/2/19 15:04  | DD              | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 11:45 | SUB             | B         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005**  
Sample ID: **MRC-SW5A2-S-042419**

Date Collected: 4/24/2019 12:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 5.5J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Bromomethane                | 0.55J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005**  
Sample ID: **MRC-SW5A2-S-042419**

Date Collected: 4/24/2019 12:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 15:28 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:28 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818005** Date Collected: 4/24/2019 12:00 Matrix: Water  
 Sample ID: **MRC-SW5A2-S-042419** Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 114            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| 4-Bromofluorobenzene (S)      | 104            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| Dibromofluoromethane (S)      | 105            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| Toluene-d8 (S)                | 102            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/2/19 15:28  | DD              | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 12:00 | SUB             | B         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006**  
Sample ID: **TB-042419-1**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | ND      |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Bromomethane                | 0.42J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006**  
Sample ID: **TB-042419-1**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Tetrachloroethene          | 0.35J   | J    | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 15:51 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 15:51 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818006**  
 Sample ID: **TB-042419-1**

Date Collected: 4/24/2019 21:30 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/2/19 15:51 | DD           | A    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/2/19 15:51 | DD           | A    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 119     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/2/19 15:51 | DD   | A    |
| 4-Bromofluorobenzene (S)  | 109     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/2/19 15:51 | DD   | A    |
| Dibromofluoromethane (S)  | 107     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/2/19 15:51 | DD   | A    |
| Toluene-d8 (S)            | 105     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/2/19 15:51 | DD   | A    |



Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007**  
Sample ID: **MRC-SW11B-S-042419**

Date Collected: 4/24/2019 14:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 8.2J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007**  
Sample ID: **MRC-SW11B-S-042419**

Date Collected: 4/24/2019 14:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 16:14 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 16:14 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818007**  
 Sample ID: **MRC-SW11B-S-042419**

Date Collected: 4/24/2019 14:00 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 118            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| 4-Bromofluorobenzene (S)      | 106            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| Dibromofluoromethane (S)      | 106            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| Toluene-d8 (S)                | 103            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/2/19 16:14  | DD              | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 14:00 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008**  
Sample ID: **MRC-SW13A-S-042419**

Date Collected: 4/24/2019 13:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |    |      |
| Acetone                     | 9.3J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Bromomethane                | 0.60J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008**  
Sample ID: **MRC-SW13A-S-042419**

Date Collected: 4/24/2019 13:00 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/2/19 16:38 | DD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/2/19 16:38 | DD | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818008**  
 Sample ID: **MRC-SW13A-S-042419**

Date Collected: 4/24/2019 13:00 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 117            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| 4-Bromofluorobenzene (S)      | 106            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| Dibromofluoromethane (S)      | 107            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| Toluene-d8 (S)                | 104            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/2/19 16:38  | DD              | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 13:00 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

#### ALS Environmental Laboratory Locations Across North America

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 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009**  
Sample ID: **MRC-SW12A-S-042419**

Date Collected: 4/24/2019 13:20 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.3J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Bromomethane                | 0.64J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| 1,2-Dichloroethene, Total   | 1.1J    | J    | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |
| cis-1,2-Dichloroethene      | 1.1     |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PDK | B    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009**  
Sample ID: **MRC-SW12A-S-042419**

Date Collected: 4/24/2019 13:20 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Trichloroethene            | 4.2     |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 23:22 | PKD | B    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818009**  
 Sample ID: **MRC-SW12A-S-042419**

Date Collected: 4/24/2019 13:20 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 130            |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| 4-Bromofluorobenzene (S)      | 105            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| Dibromofluoromethane (S)      | 109            |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| Toluene-d8 (S)                | 100            |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 23:22  | PDK             | B         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 13:20 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010**  
Sample ID: **MRC-SW11A-S-0424219**

Date Collected: 4/24/2019 13:35 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 8.4J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,4-Dichlorobenzene         | 0.52J   | J    | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| cis-1,2-Dichloroethene      | 0.33J   | J    | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010**  
Sample ID: **MRC-SW11A-S-0424219**

Date Collected: 4/24/2019 13:35 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Naphthalene                | ND      | 1    | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Toluene                    | 0.27J   | J    | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Trichloroethene            | 1.4     |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 05:57 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818010**  
 Sample ID: **MRC-SW11A-S-0424219**

Date Collected: 4/24/2019 13:35 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 77.9           |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 108            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 89.6           |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| Toluene-d8 (S)                | 89.3           |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 05:57  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 13:35 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011**  
Sample ID: **TB-042419-2**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 6.8J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Bromomethane                | 0.43J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011**  
Sample ID: **TB-042419-2**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:44 | PDK | B    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818011**  
 Sample ID: **TB-042419-2**

Date Collected: 4/24/2019 21:30 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/3/19 06:44 | PDK          | B    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/3/19 06:44 | PDK          | B    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 119     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/3/19 06:44 | PDK  | B    |
| 4-Bromofluorobenzene (S)  | 105     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/3/19 06:44 | PDK  | B    |
| Dibromofluoromethane (S)  | 104     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/3/19 06:44 | PDK  | B    |
| Toluene-d8 (S)            | 102     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/3/19 06:44 | PDK  | B    |



Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012**  
Sample ID: **MRC-SW18A-S-042419**

Date Collected: 4/24/2019 12:45 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | ND      |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,3-Dichlorobenzene         | 0.35J   | J    | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,4-Dichlorobenzene         | 0.32J   | J    | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012**  
Sample ID: **MRC-SW18A-S-042419**

Date Collected: 4/24/2019 12:45 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Naphthalene                | ND      | 1    | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Trichloroethene            | 0.86J   | J    | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:18 | PKD | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818012**  
Sample ID: **MRC-SW18A-S-042419**

Date Collected: 4/24/2019 12:45 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr                  |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 80.2           |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| 4-Bromofluorobenzene (S)      | 116            | 2           | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| Dibromofluoromethane (S)      | 95.7           |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| Toluene-d8 (S)                | 97.4           |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 06:18  | PDK             | A                     |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |                       |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 12:45 | SUB             | C                     |



Mrs. Vanessa N Badman  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818013**  
Sample ID: **MRC-SW16A-S-042419**

Date Collected: 4/24/2019 14:35 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 6.5J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,3-Dichlorobenzene         | 0.27J   | J    | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,4-Dichlorobenzene         | 0.30J   | J    | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

 Lab ID: **3029818013**  
 Sample ID: **MRC-SW16A-S-042419**

 Date Collected: 4/24/2019 14:35 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Naphthalene                | ND      | 1    | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Toluene                    | 0.25J   | J    | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:38 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818013**  
 Sample ID: **MRC-SW16A-S-042419**

Date Collected: 4/24/2019 14:35 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 82.5           |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 112            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 95.7           |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| Toluene-d8 (S)                | 94.4           |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 06:38  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 14:35 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014**  
Sample ID: **MRC-SW15A-S-042419**

Date Collected: 4/24/2019 14:20 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 10.6    |      | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Bromomethane                | ND      |      | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| tert-Butyl Alcohol          | ND      |      | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,3-Dichlorobenzene         | 0.26J   | J    | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,4-Dichlorobenzene         | 0.45J   | J    | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014**  
Sample ID: **MRC-SW15A-S-042419**

Date Collected: 4/24/2019 14:20 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Naphthalene                | ND      | 1    | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Toluene                    | 0.26J   | J    | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 06:58 | PDK | A    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818014** Date Collected: 4/24/2019 14:20 Matrix: Water  
 Sample ID: **MRC-SW15A-S-042419** Date Received: 4/24/2019 21:30

| Parameters                    | Results        | Flag        | Units        | RDL           | MDL  | Method        | Prepared By     | Analyzed      | By              | Cntr      |             |
|-------------------------------|----------------|-------------|--------------|---------------|------|---------------|-----------------|---------------|-----------------|-----------|-------------|
| o-Xylene                      | ND             |             | ug/L         | 1.0           | 0.33 | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| mp-Xylene                     | ND             |             | ug/L         | 2.0           | 0.52 | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| <i>Surrogate Recoveries</i>   | <i>Results</i> | <i>Flag</i> | <i>Units</i> | <i>Limits</i> |      | <i>Method</i> | <i>Prepared</i> | <i>By</i>     | <i>Analyzed</i> | <i>By</i> | <i>Cntr</i> |
| 1,2-Dichloroethane-d4 (S)     | 78.6           |             | %            | 62 - 133      |      | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| 4-Bromofluorobenzene (S)      | 106            |             | %            | 79 - 114      |      | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| Dibromofluoromethane (S)      | 89.2           |             | %            | 78 - 116      |      | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| Toluene-d8 (S)                | 90.9           |             | %            | 76 - 127      |      | SW846 8260B   |                 | 5/3/19 06:58  | PDK             | A         |             |
| <b>SUBCONTRACTED ANALYSIS</b> |                |             |              |               |      |               |                 |               |                 |           |             |
| Subcontracted Analysis        | See attached.  |             |              |               |      | Subcontract   |                 | 4/24/19 14:20 | SUB             | C         |             |

*Vanessa N. Badman*  
 Mrs. Vanessa N Badman  
 Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015**  
Sample ID: **TB-042419-3**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                  | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|-----------------------------|---------|------|-------|------|------|-------------|-------------|--------------|-----|------|
| <b>VOLATILE ORGANICS</b>    |         |      |       |      |      |             |             |              |     |      |
| Acetone                     | 5.0J    | J    | ug/L  | 10.0 | 3.1  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| tert-Amyl methyl ether      | ND      |      | ug/L  | 1.0  | 0.20 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Benzene                     | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Bromobenzene                | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Bromochloromethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Bromodichloromethane        | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Bromoform                   | ND      |      | ug/L  | 1.0  | 0.40 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Bromomethane                | 0.40J   | J    | ug/L  | 1.0  | 0.39 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 2-Butanone                  | ND      |      | ug/L  | 10.0 | 1.8  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| tert-Butyl Alcohol          | 3.0J    | J    | ug/L  | 10.0 | 2.2  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| n-Butylbenzene              | ND      |      | ug/L  | 2.0  | 0.60 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| tert-Butylbenzene           | ND      |      | ug/L  | 2.0  | 0.44 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| sec-Butylbenzene            | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Carbon Disulfide            | ND      |      | ug/L  | 1.0  | 0.23 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Carbon Tetrachloride        | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Chlorobenzene               | ND      |      | ug/L  | 1.0  | 0.19 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Chlorodibromomethane        | ND      |      | ug/L  | 1.0  | 0.45 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Chloroethane                | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 2-Chloroethylvinyl ether    | ND      |      | ug/L  | 2.0  | 0.38 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Chloroform                  | ND      |      | ug/L  | 1.0  | 0.21 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Chloromethane               | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| o-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.26 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| p-Chlorotoluene             | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Cyclohexane                 | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dibromo-3-chloropropane | ND      |      | ug/L  | 7.0  | 1.5  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dibromoethane           | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Dibromomethane              | ND      |      | ug/L  | 1.0  | 0.31 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.38 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,3-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.25 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,4-Dichlorobenzene         | ND      |      | ug/L  | 1.0  | 0.27 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Dichlorodifluoromethane     | ND      |      | ug/L  | 1.0  | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.28 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dichloroethane          | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1-Dichloroethene          | ND      |      | ug/L  | 1.0  | 0.29 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dichloroethene, Total   | ND      |      | ug/L  | 2.0  | 0.45 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| cis-1,2-Dichloroethene      | ND      |      | ug/L  | 1.0  | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |

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**ANALYTICAL RESULTS**

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015**  
Sample ID: **TB-042419-3**

Date Collected: 4/24/2019 21:30 Matrix: Water  
Date Received: 4/24/2019 21:30

| Parameters                 | Results | Flag | Units | RDL | MDL  | Method      | Prepared By | Analyzed     | By  | Cntr |
|----------------------------|---------|------|-------|-----|------|-------------|-------------|--------------|-----|------|
| trans-1,2-Dichloroethene   | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,3-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.27 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 2,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2-Dichloropropane        | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| cis-1,3-Dichloropropene    | ND      |      | ug/L  | 1.0 | 0.31 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| trans-1,3-Dichloropropene  | ND      |      | ug/L  | 1.0 | 0.29 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,3-Dichloropropene, Total | ND      |      | ug/L  | 2.0 | 0.47 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Diisopropyl ether          | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Ethyl tert-butyl ether     | ND      |      | ug/L  | 1.0 | 0.19 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Ethylbenzene               | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Freon 113                  | ND      |      | ug/L  | 1.0 | 0.26 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Hexachlorobutadiene        | ND      |      | ug/L  | 5.0 | 1.0  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 2-Hexanone                 | ND      |      | ug/L  | 5.0 | 1.3  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Isopropylbenzene           | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| p-Isopropyltoluene         | ND      |      | ug/L  | 1.0 | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Methyl acetate             | ND      |      | ug/L  | 2.0 | 0.32 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Methyl cyclohexane         | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Methyl t-Butyl Ether       | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 4-Methyl-2-Pentanone(MIBK) | ND      |      | ug/L  | 5.0 | 1.5  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Methylene Chloride         | ND      |      | ug/L  | 1.0 | 0.45 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Naphthalene                | ND      |      | ug/L  | 2.0 | 0.34 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| n-Propylbenzene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Styrene                    | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1,1,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1,2,2-Tetrachloroethane  | ND      |      | ug/L  | 1.0 | 0.34 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Tetrachloroethene          | ND      |      | ug/L  | 1.0 | 0.35 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Toluene                    | ND      |      | ug/L  | 1.0 | 0.23 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Total Xylenes              | ND      |      | ug/L  | 3.0 | 0.66 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2,3-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.93 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2,4-Trichlorobenzene     | ND      |      | ug/L  | 2.0 | 0.82 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1,1-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.22 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,1,2-Trichloroethane      | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Trichloroethene            | ND      |      | ug/L  | 1.0 | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Trichlorofluoromethane     | ND      |      | ug/L  | 1.0 | 0.24 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2,3-Trichloropropane     | ND      |      | ug/L  | 2.0 | 0.60 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| 1,2,4-Trimethylbenzene     | ND      |      | ug/L  | 1.0 | 0.25 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Vinyl Acetate              | ND      |      | ug/L  | 5.0 | 1.6  | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |
| Vinyl Chloride             | ND      |      | ug/L  | 1.0 | 0.30 | SW846 8260B |             | 5/3/19 22:11 | PDK | B    |

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

Lab ID: **3029818015**  
 Sample ID: **TB-042419-3**

Date Collected: 4/24/2019 21:30 Matrix: Water  
 Date Received: 4/24/2019 21:30

| Parameters                | Results | Flag | Units | RDL      | MDL  | Method      | Prepared By | Analyzed     | By           | Cntr |      |
|---------------------------|---------|------|-------|----------|------|-------------|-------------|--------------|--------------|------|------|
| o-Xylene                  | ND      |      | ug/L  | 1.0      | 0.33 | SW846 8260B |             | 5/3/19 22:11 | PDK          | B    |      |
| mp-Xylene                 | ND      |      | ug/L  | 2.0      | 0.52 | SW846 8260B |             | 5/3/19 22:11 | PDK          | B    |      |
| Surrogate Recoveries      | Results | Flag | Units | Limits   |      | Method      | Prepared    | By           | Analyzed     | By   | Cntr |
| 1,2-Dichloroethane-d4 (S) | 127     |      | %     | 62 - 133 |      | SW846 8260B |             |              | 5/3/19 22:11 | PDK  | B    |
| 4-Bromofluorobenzene (S)  | 104     |      | %     | 79 - 114 |      | SW846 8260B |             |              | 5/3/19 22:11 | PDK  | B    |
| Dibromofluoromethane (S)  | 109     |      | %     | 78 - 116 |      | SW846 8260B |             |              | 5/3/19 22:11 | PDK  | B    |
| Toluene-d8 (S)            | 100     |      | %     | 76 - 127 |      | SW846 8260B |             |              | 5/3/19 22:11 | PDK  | B    |



Mrs. Vanessa N Badman  
 Project Coordinator

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### ANALYTICAL RESULTS

Workorder: 3029818 LMC MRC / 95840ACM

#### PARAMETER QUALIFIERS

| Lab ID  | # | Sample ID           | Analytical Method | Analyte              |
|---|---|---------------------|-------------------|----------------------|
| <b>3029818010</b>   | 1 | MRC-SW11A-S-0424219 | SW846 8260B       | Naphthalene          |
| The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.  |   |                     |                   |                      |
| <b>3029818012</b>   | 1 | MRC-SW18A-S-042419  | SW846 8260B       | Naphthalene          |
| The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.  |   |                     |                   |                      |
| <b>3029818012</b>   | 2 | MRC-SW18A-S-042419  | SW846 8260B       | 4-Bromofluorobenzene |
| The surrogate 4-Bromofluorobenzene for method SW846 8260B was outside of control limits. The % Recovery was reported as 116 and the control limits were 79 to 114. This result was reported at a dilution of 1. |   |                     |                   |                      |
| <b>3029818013</b>   | 1 | MRC-SW16A-S-042419  | SW846 8260B       | Naphthalene          |
| The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.  |   |                     |                   |                      |
| <b>3029818014</b>   | 1 | MRC-SW15A-S-042419  | SW846 8260B       | Naphthalene          |
| The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.  |   |                     |                   |                      |

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3029818 LMC MRC / 95840ACM

| Lab ID     | Sample ID          | Analysis Method | Prep Method |
|------------|--------------------|-----------------|-------------|
| 3029818001 | MRC-SW2A-042419    | 8270 SIM        | SW846 3510C |
| 3029818001 | MRC-SW2A-042419    | SW846 8260B     |             |
| 3029818002 | MRC-SW1A-042419    | 8270 SIM        | SW846 3510C |
| 3029818002 | MRC-SW1A-042419    | SW846 8260B     |             |
| 3029818003 | MRC-SW5B-S-042419  | SW846 8260B     |             |
| 3029818003 | MRC-SW5B-S-042419  | Subcontract     |             |
| 3029818004 | MRC-SW5A1-S-042419 | SW846 8260B     |             |
| 3029818004 | MRC-SW5A1-S-042419 | Subcontract     |             |
| 3029818005 | MRC-SW5A2-S-042419 | SW846 8260B     |             |
| 3029818005 | MRC-SW5A2-S-042419 | Subcontract     |             |
| 3029818006 | TB-042419-1        | SW846 8260B     |             |
| 3029818007 | MRC-SW11B-S-042419 | SW846 8260B     |             |
| 3029818007 | MRC-SW11B-S-042419 | Subcontract     |             |
| 3029818008 | MRC-SW13A-S-042419 | SW846 8260B     |             |
| 3029818008 | MRC-SW13A-S-042419 | Subcontract     |             |
| 3029818009 | MRC-SW12A-S-042419 | SW846 8260B     |             |
| 3029818009 | MRC-SW12A-S-042419 | Subcontract     |             |
| 3029818010 | MRC-SW11A-S-042419 | SW846 8260B     |             |
| 3029818010 | MRC-SW11A-S-042419 | Subcontract     |             |
| 3029818011 | TB-042419-2        | SW846 8260B     |             |
| 3029818012 | MRC-SW18A-S-042419 | SW846 8260B     |             |
| 3029818012 | MRC-SW18A-S-042419 | Subcontract     |             |
| 3029818013 | MRC-SW16A-S-042419 | SW846 8260B     |             |
| 3029818013 | MRC-SW16A-S-042419 | Subcontract     |             |
| 3029818014 | MRC-SW15A-S-042419 | SW846 8260B     |             |
| 3029818014 | MRC-SW15A-S-042419 | Subcontract     |             |
| 3029818015 | TB-042419-3        | SW846 8260B     |             |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

**QC Batch:** EXTR/56278 **Analysis Method:** 8270 SIM

**QC Batch Method:** SW846 3510C

**Associated Lab Samples:** 3029818001, 3029818002

**METHOD BLANK: 2936867**

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| 1,4-Dioxane                 | ND           | ug/L  | 0.10            |
| 2-Methylnaphthalene-d10 (S) | 79.4         | %     | 29 - 112        |
| Fluoranthene-d10 (S)        | 93.2         | %     | 45 - 130        |

**LABORATORY CONTROL SAMPLE: 2936868**

| Parameter                   | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-----------------------------|-----------|-------|-------------|------------|-------------|
| 1,4-Dioxane                 | 52.9      | ug/L  | 1           | 0.53       | 22 - 75     |
| 2-Methylnaphthalene-d10 (S) | 85.9      | %     |             |            | 29 - 112    |
| Fluoranthene-d10 (S)        | 96        | %     |             |            | 45 - 130    |

**MATRIX SPIKE: 2936869 DUPLICATE: 2936870 ORIGINAL: 3029976001**

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter                   | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD  | Max RPD |
|-----------------------------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|------|---------|
| 1,4-Dioxane                 | .0311           | ug/L  | 1.1         | .57132    | .55274     | 51.1     | 48        | 22 - 75     | 3.31 | 30      |
| 2-Methylnaphthalene-d10 (S) | 83.8            | %     |             |           |            | 83.8     | 82.2      | 29 - 112    |      |         |
| Fluoranthene-d10 (S)        | 93.1            | %     |             |           |            | 93.1     | 86.7      | 45 - 130    |      |         |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

**QC Batch:** VOMS/50700 **Analysis Method:** SW846 8260B

**QC Batch Method:** SW846 8260B

**Associated Lab Samples:** 3029818001, 3029818002, 3029818003, 3029818004, 3029818005, 3029818006, 3029818007, 3029818008

LABORATORY CONTROL SAMPLE: 2937790

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 93.8         | ug/L  | 100            | 93.8          | 40 - 151       |
| tert-Amyl methyl ether      | 106          | ug/L  | 20             | 21.1          | 75 - 121       |
| Benzene                     | 101          | ug/L  | 20             | 20.3          | 80 - 124       |
| Bromobenzene                | 101          | ug/L  | 20             | 20.2          | 81 - 119       |
| Bromochloromethane          | 96.4         | ug/L  | 20             | 19.3          | 73 - 117       |
| Bromodichloromethane        | 103          | ug/L  | 20             | 20.7          | 79 - 126       |
| Bromoform                   | 99.8         | ug/L  | 20             | 20.0          | 70 - 123       |
| Bromomethane                | 81.3         | ug/L  | 20             | 16.3          | 45 - 148       |
| 2-Butanone                  | 97.3         | ug/L  | 100            | 97.3          | 50 - 152       |
| tert-Butyl Alcohol          | 116          | ug/L  | 100            | 116           | 17 - 168       |
| n-Butylbenzene              | 104          | ug/L  | 20             | 20.8          | 71 - 130       |
| tert-Butylbenzene           | 102          | ug/L  | 20             | 20.4          | 72 - 124       |
| sec-Butylbenzene            | 105          | ug/L  | 20             | 21.1          | 72 - 127       |
| Carbon Disulfide            | 98.9         | ug/L  | 20             | 19.8          | 57 - 131       |
| Carbon Tetrachloride        | 96.9         | ug/L  | 20             | 19.4          | 62 - 132       |
| Chlorobenzene               | 96.8         | ug/L  | 20             | 19.4          | 85 - 117       |
| Chlorodibromomethane        | 100          | ug/L  | 20             | 20.1          | 77 - 122       |
| Chloroethane                | 91.7         | ug/L  | 20             | 18.3          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 90.2         | ug/L  | 20             | 18.0          | 1 - 150        |
| Chloroform                  | 97.8         | ug/L  | 20             | 19.6          | 78 - 122       |
| Chloromethane               | 91.3         | ug/L  | 20             | 18.3          | 38 - 156       |
| o-Chlorotoluene             | 103          | ug/L  | 20             | 20.5          | 78 - 126       |
| p-Chlorotoluene             | 103          | ug/L  | 20             | 20.7          | 78 - 125       |
| Cyclohexane                 | 102          | ug/L  | 20             | 20.4          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 102          | ug/L  | 20             | 20.4          | 59 - 133       |
| 1,2-Dibromoethane           | 99.8         | ug/L  | 20             | 20.0          | 80 - 124       |
| Dibromomethane              | 104          | ug/L  | 20             | 20.8          | 81 - 125       |
| 1,2-Dichlorobenzene         | 101          | ug/L  | 20             | 20.2          | 82 - 118       |
| 1,3-Dichlorobenzene         | 99.6         | ug/L  | 20             | 19.9          | 81 - 118       |
| 1,4-Dichlorobenzene         | 101          | ug/L  | 20             | 20.2          | 81 - 116       |
| Dichlorodifluoromethane     | 86.4         | ug/L  | 20             | 17.3          | 17 - 166       |
| 1,1-Dichloroethane          | 99           | ug/L  | 20             | 19.8          | 78 - 124       |
| 1,2-Dichloroethane          | 106          | ug/L  | 20             | 21.3          | 70 - 133       |
| 1,1-Dichloroethene          | 103          | ug/L  | 20             | 20.6          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 104          | ug/L  | 40             | 41.4          | 78 - 125       |
| cis-1,2-Dichloroethene      | 102          | ug/L  | 20             | 20.3          | 78 - 125       |
| trans-1,2-Dichloroethene    | 105          | ug/L  | 20             | 21.1          | 71 - 122       |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropane        | 97   | ug/L | 20  | 19.4 | 82 - 126 |
| 2,2-Dichloropropane        | 104  | ug/L | 20  | 20.8 | 64 - 129 |
| 1,2-Dichloropropane        | 102  | ug/L | 20  | 20.3 | 81 - 127 |
| cis-1,3-Dichloropropene    | 99.2 | ug/L | 20  | 19.8 | 81 - 121 |
| trans-1,3-Dichloropropene  | 104  | ug/L | 20  | 20.7 | 78 - 126 |
| 1,3-Dichloropropene, Total | 101  | ug/L | 40  | 40.6 | 80 - 123 |
| Diisopropyl ether          | 105  | ug/L | 20  | 21.0 | 74 - 131 |
| Ethyl tert-butyl ether     | 106  | ug/L | 20  | 21.1 | 75 - 123 |
| Ethylbenzene               | 100  | ug/L | 20  | 20.0 | 80 - 124 |
| Freon 113                  | 97.3 | ug/L | 20  | 19.5 | 50 - 130 |
| Hexachlorobutadiene        | 110  | ug/L | 20  | 22.0 | 55 - 128 |
| 2-Hexanone                 | 105  | ug/L | 100 | 105  | 65 - 154 |
| Isopropylbenzene           | 106  | ug/L | 20  | 21.1 | 73 - 129 |
| p-Isopropyltoluene         | 104  | ug/L | 20  | 20.7 | 72 - 123 |
| Methyl acetate             | 102  | ug/L | 20  | 20.4 | 70 - 130 |
| Methyl cyclohexane         | 97   | ug/L | 20  | 19.4 | 70 - 130 |
| Methyl t-Butyl Ether       | 102  | ug/L | 20  | 20.4 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 81   | ug/L | 100 | 81.0 | 71 - 146 |
| Methylene Chloride         | 99.7 | ug/L | 20  | 19.9 | 76 - 121 |
| Naphthalene                | 105  | ug/L | 20  | 21.1 | 56 - 134 |
| n-Propylbenzene            | 99.9 | ug/L | 20  | 20.0 | 74 - 122 |
| Styrene                    | 103  | ug/L | 20  | 20.5 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 101  | ug/L | 20  | 20.2 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 103  | ug/L | 20  | 20.6 | 74 - 135 |
| Tetrachloroethene          | 105  | ug/L | 20  | 21.0 | 72 - 124 |
| Toluene                    | 97.7 | ug/L | 20  | 19.5 | 80 - 125 |
| Total Xylenes              | 99.5 | ug/L | 60  | 59.7 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 99.5 | ug/L | 20  | 19.9 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 108  | ug/L | 20  | 21.5 | 67 - 123 |
| 1,1,1-Trichloroethane      | 105  | ug/L | 20  | 21.1 | 66 - 130 |
| 1,1,2-Trichloroethane      | 97.5 | ug/L | 20  | 19.5 | 82 - 126 |
| Trichloroethene            | 95   | ug/L | 20  | 19.0 | 77 - 124 |
| Trichlorofluoromethane     | 104  | ug/L | 20  | 20.8 | 38 - 123 |
| 1,2,3-Trichloropropane     | 103  | ug/L | 20  | 20.7 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 102  | ug/L | 20  | 20.4 | 76 - 125 |
| Vinyl Acetate              | 105  | ug/L | 20  | 21.0 | 58 - 136 |
| Vinyl Chloride             | 94.2 | ug/L | 20  | 18.8 | 27 - 138 |
| o-Xylene                   | 98.3 | ug/L | 20  | 19.7 | 79 - 124 |
| mp-Xylene                  | 100  | ug/L | 40  | 40.1 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 112  | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 106  | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 105  | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 102  | %    |     |      | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

METHOD BLANK: 2937789

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | ND           | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | 0.43J        | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | ND           | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | ND           | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | ND           | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |
| 1,3-Dichloropropane         | ND           | ug/L  | 1.0             |
| 2,2-Dichloropropane         | ND           | ug/L  | 1.0             |
| 1,2-Dichloropropane         | ND           | ug/L  | 1.0             |
| cis-1,3-Dichloropropene     | ND           | ug/L  | 1.0             |
| trans-1,3-Dichloropropene   | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |       |      |          |
|----------------------------|-------|------|----------|
| 1,3-Dichloropropene, Total | ND    | ug/L | 2.0      |
| Diisopropyl ether          | ND    | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND    | ug/L | 1.0      |
| Ethylbenzene               | ND    | ug/L | 1.0      |
| Freon 113                  | ND    | ug/L | 1.0      |
| Hexachlorobutadiene        | ND    | ug/L | 5.0      |
| 2-Hexanone                 | ND    | ug/L | 5.0      |
| Isopropylbenzene           | ND    | ug/L | 1.0      |
| p-Isopropyltoluene         | ND    | ug/L | 1.0      |
| Methyl acetate             | ND    | ug/L | 2.0      |
| Methyl cyclohexane         | ND    | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND    | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND    | ug/L | 5.0      |
| Methylene Chloride         | ND    | ug/L | 1.0      |
| Naphthalene                | ND    | ug/L | 2.0      |
| n-Propylbenzene            | ND    | ug/L | 1.0      |
| Styrene                    | ND    | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND    | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND    | ug/L | 1.0      |
| Tetrachloroethene          | 0.69J | ug/L | 1.0      |
| Toluene                    | ND    | ug/L | 1.0      |
| Total Xylenes              | ND    | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND    | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | ND    | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND    | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND    | ug/L | 1.0      |
| Trichloroethene            | ND    | ug/L | 1.0      |
| Trichlorofluoromethane     | ND    | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND    | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | ND    | ug/L | 1.0      |
| Vinyl Acetate              | ND    | ug/L | 5.0      |
| Vinyl Chloride             | ND    | ug/L | 1.0      |
| o-Xylene                   | ND    | ug/L | 1.0      |
| mp-Xylene                  | ND    | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 114   | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 107   | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 105   | %    | 78 - 116 |
| Toluene-d8 (S)             | 104   | %    | 76 - 127 |

MATRIX SPIKE: 2937793 DUPLICATE: 2937794 ORIGINAL: 3029861001

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                             |         |      |     |         |         |      |      |          |      |    |
|-----------------------------|---------|------|-----|---------|---------|------|------|----------|------|----|
| Acetone                     | 4.34126 | ug/L | 100 | 100.683 | 91.4206 | 96.3 | 87.1 | 40 - 151 | 9.64 | 40 |
| Benzene                     | 0       | ug/L | 20  | 21.4518 | 20.1192 | 107  | 101  | 80 - 124 | 6.41 | 26 |
| Bromochloromethane          | 0       | ug/L | 20  | 21.125  | 19.7736 | 106  | 98.9 | 73 - 117 | 6.61 | 19 |
| Bromodichloromethane        | 0       | ug/L | 20  | 22.1144 | 20.9216 | 111  | 105  | 79 - 126 | 5.54 | 16 |
| Bromoform                   | 0       | ug/L | 20  | 18.3607 | 16.8398 | 91.8 | 84.2 | 70 - 123 | 8.64 | 16 |
| Bromomethane                | .50283  | ug/L | 20  | 19.0249 | 22.8473 | 92.6 | 112  | 45 - 148 | 18.3 | 26 |
| 2-Butanone                  | 0       | ug/L | 100 | 97.8838 | 90.1878 | 97.9 | 90.2 | 50 - 152 | 8.18 | 16 |
| Carbon Disulfide            | 0       | ug/L | 20  | 21.109  | 18.404  | 106  | 92   | 57 - 131 | 13.7 | 28 |
| Carbon Tetrachloride        | 0       | ug/L | 20  | 22.4481 | 20.4834 | 112  | 102  | 62 - 132 | 9.15 | 17 |
| Chlorobenzene               | 0       | ug/L | 20  | 20.2821 | 19.1967 | 101  | 96   | 85 - 117 | 5.5  | 15 |
| Chlorodibromomethane        | 0       | ug/L | 20  | 20.7252 | 19.2646 | 104  | 96.3 | 77 - 122 | 7.3  | 15 |
| Chloroethane                | 0       | ug/L | 20  | 19.6652 | 17.9611 | 98.3 | 89.8 | 51 - 142 | 9.06 | 24 |
| Chloroform                  | 0       | ug/L | 20  | 21.1754 | 19.8176 | 106  | 99.1 | 78 - 122 | 6.62 | 16 |
| Chloromethane               | 0       | ug/L | 20  | 20.0648 | 17.4418 | 100  | 87.2 | 38 - 156 | 14   | 27 |
| 1,2-Dibromo-3-chloropropane | 0       | ug/L | 20  | 20.0992 | 18.5391 | 100  | 92.7 | 59 - 133 | 8.08 | 26 |
| 1,2-Dibromoethane           | 0       | ug/L | 20  | 20.0108 | 19.1183 | 100  | 95.6 | 80 - 124 | 4.56 | 19 |
| Dibromomethane              | 0       | ug/L | 20  | 21.3906 | 20.5275 | 107  | 103  | 81 - 125 | 4.12 | 16 |
| 1,2-Dichlorobenzene         | 0       | ug/L | 20  | 20.8994 | 19.5687 | 104  | 97.8 | 82 - 118 | 6.58 | 15 |
| 1,4-Dichlorobenzene         | 0       | ug/L | 20  | 20.5205 | 19.2492 | 103  | 96.2 | 81 - 116 | 6.39 | 15 |
| 1,1-Dichloroethane          | 0       | ug/L | 20  | 21.2437 | 19.8819 | 106  | 99.4 | 78 - 124 | 6.62 | 15 |
| 1,2-Dichloroethane          | 0       | ug/L | 20  | 22.647  | 21.8873 | 113  | 109  | 70 - 133 | 3.41 | 19 |
| 1,1-Dichloroethene          | 0       | ug/L | 20  | 22.569  | 20.9751 | 113  | 105  | 63 - 128 | 7.32 | 21 |
| cis-1,2-Dichloroethene      | 0       | ug/L | 20  | 21.8761 | 20.7757 | 109  | 104  | 78 - 125 | 5.16 | 21 |
| trans-1,2-Dichloroethene    | 0       | ug/L | 20  | 22.9597 | 20.891  | 115  | 104  | 71 - 122 | 9.44 | 22 |
| 1,2-Dichloropropane         | 0       | ug/L | 20  | 21.3874 | 20.1314 | 107  | 101  | 81 - 127 | 6.05 | 15 |
| cis-1,3-Dichloropropene     | 0       | ug/L | 20  | 20.0884 | 18.8928 | 100  | 94.5 | 81 - 121 | 6.13 | 16 |
| trans-1,3-Dichloropropene   | 0       | ug/L | 20  | 20.6822 | 19.7972 | 103  | 99   | 78 - 126 | 4.37 | 18 |
| Ethylbenzene                | 0       | ug/L | 20  | 21.195  | 19.5932 | 106  | 98   | 80 - 124 | 7.85 | 19 |
| 2-Hexanone                  | 0       | ug/L | 100 | 104.804 | 97.2776 | 105  | 97.3 | 65 - 154 | 7.45 | 17 |
| Methyl t-Butyl Ether        | 0       | ug/L | 20  | 20.9005 | 20.0504 | 105  | 100  | 69 - 115 | 4.15 | 20 |
| 4-Methyl-2-Pentanone(MIBK)  | 0       | ug/L | 100 | 81.4951 | 75.9267 | 81.5 | 75.9 | 71 - 146 | 7.07 | 16 |
| Methylene Chloride          | 0       | ug/L | 20  | 20.4628 | 19.5657 | 102  | 97.8 | 76 - 121 | 4.48 | 17 |
| Styrene                     | 0       | ug/L | 20  | 21.0893 | 19.5062 | 105  | 97.5 | 79 - 123 | 7.8  | 16 |
| 1,1,1,2-Tetrachloroethane   | 0       | ug/L | 20  | 21.3623 | 20.4171 | 107  | 102  | 78 - 121 | 4.52 | 16 |
| 1,1,2,2-Tetrachloroethane   | 0       | ug/L | 20  | 19.9616 | 18.7415 | 99.8 | 93.7 | 74 - 135 | 6.3  | 16 |
| Tetrachloroethene           | 0       | ug/L | 20  | 21.3284 | 19.9315 | 107  | 99.7 | 72 - 124 | 6.77 | 38 |
| Toluene                     | 0       | ug/L | 20  | 20.718  | 19.268  | 104  | 96.3 | 80 - 125 | 7.25 | 20 |
| 1,1,1-Trichloroethane       | 0       | ug/L | 20  | 23.4523 | 21.5279 | 117  | 108  | 66 - 130 | 8.56 | 20 |
| 1,1,2-Trichloroethane       | 0       | ug/L | 20  | 20.2101 | 19.2212 | 101  | 96.1 | 82 - 126 | 5.02 | 15 |
| Trichloroethene             | 0       | ug/L | 20  | 20.8146 | 19.0204 | 104  | 95.1 | 77 - 124 | 9.01 | 18 |
| Trichlorofluoromethane      | 0       | ug/L | 20  | 22.587  | 21.1969 | 113  | 106  | 38 - 123 | 6.35 | 23 |
| 1,2,3-Trichloropropane      | 0       | ug/L | 20  | 20.4053 | 19.4123 | 102  | 97.1 | 75 - 132 | 4.99 | 19 |
| Vinyl Acetate               | 0       | ug/L | 20  | 16.2174 | 15.7182 | 81.1 | 78.6 | 58 - 136 | 3.13 | 17 |
| Vinyl Chloride              | 0       | ug/L | 20  | 21.0494 | 19.1211 | 105  | 95.6 | 27 - 138 | 9.6  | 40 |
| o-Xylene                    | 0       | ug/L | 20  | 20.9269 | 19.6171 | 105  | 98.1 | 79 - 124 | 6.46 | 19 |
| mp-Xylene                   | 0       | ug/L | 40  | 41.8807 | 39.648  | 105  | 99.1 | 79 - 125 | 5.48 | 21 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                           |     |   |     |     |          |
|---------------------------|-----|---|-----|-----|----------|
| 1,2-Dichloroethane-d4 (S) | 114 | % | 114 | 112 | 62 - 133 |
| 4-Bromofluorobenzene (S)  | 103 | % | 103 | 102 | 79 - 114 |
| Dibromofluoromethane (S)  | 106 | % | 106 | 104 | 78 - 116 |
| Toluene-d8 (S)            | 100 | % | 100 | 100 | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

**QC Batch:** VOMS/50702 **Analysis Method:** SW846 8260B

**QC Batch Method:** SW846 8260B

**Associated Lab Samples:** 3029818009, 3029818010, 3029818012, 3029818013, 3029818014, 3029818015

METHOD BLANK: 2938012

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | 0.39J        | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | ND           | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | 0.69J        | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | 0.35J        | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | 0.50J        | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | 0.52J        | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | 0.64J        | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | 0.74J        | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |       |      |          |
|----------------------------|-------|------|----------|
| 1,3-Dichloropropane        | ND    | ug/L | 1.0      |
| 2,2-Dichloropropane        | ND    | ug/L | 1.0      |
| 1,2-Dichloropropane        | ND    | ug/L | 1.0      |
| cis-1,3-Dichloropropene    | ND    | ug/L | 1.0      |
| trans-1,3-Dichloropropene  | ND    | ug/L | 1.0      |
| 1,3-Dichloropropene, Total | ND    | ug/L | 2.0      |
| Diisopropyl ether          | ND    | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND    | ug/L | 1.0      |
| Ethylbenzene               | ND    | ug/L | 1.0      |
| Freon 113                  | ND    | ug/L | 1.0      |
| Hexachlorobutadiene        | ND    | ug/L | 5.0      |
| 2-Hexanone                 | ND    | ug/L | 5.0      |
| Isopropylbenzene           | ND    | ug/L | 1.0      |
| p-Isopropyltoluene         | 0.41J | ug/L | 1.0      |
| Methyl acetate             | ND    | ug/L | 2.0      |
| Methyl cyclohexane         | ND    | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND    | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND    | ug/L | 5.0      |
| Methylene Chloride         | ND    | ug/L | 1.0      |
| Naphthalene                | 5.0   | ug/L | 2.0      |
| n-Propylbenzene            | 0.37J | ug/L | 1.0      |
| Styrene                    | ND    | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND    | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND    | ug/L | 1.0      |
| Tetrachloroethene          | ND    | ug/L | 1.0      |
| Toluene                    | ND    | ug/L | 1.0      |
| Total Xylenes              | ND    | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND    | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | 0.88J | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND    | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND    | ug/L | 1.0      |
| Trichloroethene            | ND    | ug/L | 1.0      |
| Trichlorofluoromethane     | ND    | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND    | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | 0.32J | ug/L | 1.0      |
| Vinyl Acetate              | ND    | ug/L | 5.0      |
| Vinyl Chloride             | ND    | ug/L | 1.0      |
| o-Xylene                   | ND    | ug/L | 1.0      |
| mp-Xylene                  | ND    | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 84.3  | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 117   | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 93.9  | %    | 78 - 116 |
| Toluene-d8 (S)             | 97.1  | %    | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938013

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 109          | ug/L  | 100            | 109           | 40 - 151       |
| tert-Amyl methyl ether      | 125*         | ug/L  | 20             | 25.0          | 75 - 121       |
| Benzene                     | 108          | ug/L  | 20             | 21.6          | 80 - 124       |
| Bromobenzene                | 106          | ug/L  | 20             | 21.3          | 81 - 119       |
| Bromochloromethane          | 96           | ug/L  | 20             | 19.2          | 73 - 117       |
| Bromodichloromethane        | 101          | ug/L  | 20             | 20.1          | 79 - 126       |
| Bromoform                   | 106          | ug/L  | 20             | 21.3          | 70 - 123       |
| Bromomethane                | 113          | ug/L  | 20             | 22.6          | 45 - 148       |
| 2-Butanone                  | 105          | ug/L  | 100            | 105           | 50 - 152       |
| tert-Butyl Alcohol          | 114          | ug/L  | 100            | 114           | 17 - 168       |
| n-Butylbenzene              | 117          | ug/L  | 20             | 23.5          | 71 - 130       |
| tert-Butylbenzene           | 104          | ug/L  | 20             | 20.8          | 72 - 124       |
| sec-Butylbenzene            | 114          | ug/L  | 20             | 22.9          | 72 - 127       |
| Carbon Disulfide            | 104          | ug/L  | 20             | 20.7          | 57 - 131       |
| Carbon Tetrachloride        | 108          | ug/L  | 20             | 21.6          | 62 - 132       |
| Chlorobenzene               | 113          | ug/L  | 20             | 22.5          | 85 - 117       |
| Chlorodibromomethane        | 99.9         | ug/L  | 20             | 20.0          | 77 - 122       |
| Chloroethane                | 95.6         | ug/L  | 20             | 19.1          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 153*         | ug/L  | 20             | 30.5          | 1 - 150        |
| Chloroform                  | 98.2         | ug/L  | 20             | 19.6          | 78 - 122       |
| Chloromethane               | 96.8         | ug/L  | 20             | 19.4          | 38 - 156       |
| o-Chlorotoluene             | 95.6         | ug/L  | 20             | 19.1          | 78 - 126       |
| p-Chlorotoluene             | 109          | ug/L  | 20             | 21.8          | 78 - 125       |
| Cyclohexane                 | 98.3         | ug/L  | 20             | 19.7          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 112          | ug/L  | 20             | 22.4          | 59 - 133       |
| 1,2-Dibromoethane           | 104          | ug/L  | 20             | 20.7          | 80 - 124       |
| Dibromomethane              | 95.4         | ug/L  | 20             | 19.1          | 81 - 125       |
| 1,2-Dichlorobenzene         | 113          | ug/L  | 20             | 22.6          | 82 - 118       |
| 1,3-Dichlorobenzene         | 108          | ug/L  | 20             | 21.6          | 81 - 118       |
| 1,4-Dichlorobenzene         | 109          | ug/L  | 20             | 21.8          | 81 - 116       |
| Dichlorodifluoromethane     | 70.3         | ug/L  | 20             | 14.1          | 17 - 166       |
| 1,1-Dichloroethane          | 95.8         | ug/L  | 20             | 19.2          | 78 - 124       |
| 1,2-Dichloroethane          | 109          | ug/L  | 20             | 21.9          | 70 - 133       |
| 1,1-Dichloroethene          | 99.7         | ug/L  | 20             | 19.9          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 113          | ug/L  | 40             | 45.1          | 78 - 125       |
| cis-1,2-Dichloroethene      | 110          | ug/L  | 20             | 22.0          | 78 - 125       |
| trans-1,2-Dichloroethene    | 116          | ug/L  | 20             | 23.1          | 71 - 122       |
| 1,3-Dichloropropane         | 96.5         | ug/L  | 20             | 19.3          | 82 - 126       |
| 2,2-Dichloropropane         | 89           | ug/L  | 20             | 17.8          | 64 - 129       |
| 1,2-Dichloropropane         | 101          | ug/L  | 20             | 20.2          | 81 - 127       |
| cis-1,3-Dichloropropene     | 98.1         | ug/L  | 20             | 19.6          | 81 - 121       |
| trans-1,3-Dichloropropene   | 98.5         | ug/L  | 20             | 19.7          | 78 - 126       |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropene, Total | 98.3 | ug/L | 40  | 39.3 | 80 - 123 |
| Diisopropyl ether          | 101  | ug/L | 20  | 20.1 | 74 - 131 |
| Ethyl tert-butyl ether     | 120  | ug/L | 20  | 24.0 | 75 - 123 |
| Ethylbenzene               | 112  | ug/L | 20  | 22.5 | 80 - 124 |
| Freon 113                  | 102  | ug/L | 20  | 20.5 | 50 - 130 |
| Hexachlorobutadiene        | 125  | ug/L | 20  | 25.1 | 55 - 128 |
| 2-Hexanone                 | 104  | ug/L | 100 | 104  | 65 - 154 |
| Isopropylbenzene           | 109  | ug/L | 20  | 21.8 | 73 - 129 |
| p-Isopropyltoluene         | 119  | ug/L | 20  | 23.8 | 72 - 123 |
| Methyl acetate             | 120  | ug/L | 20  | 24.1 | 70 - 130 |
| Methyl cyclohexane         | 106  | ug/L | 20  | 21.2 | 70 - 130 |
| Methyl t-Butyl Ether       | 98.6 | ug/L | 20  | 19.7 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 107  | ug/L | 100 | 107  | 71 - 146 |
| Methylene Chloride         | 109  | ug/L | 20  | 21.7 | 76 - 121 |
| Naphthalene                | 92.8 | ug/L | 20  | 18.6 | 56 - 134 |
| n-Propylbenzene            | 114  | ug/L | 20  | 22.8 | 74 - 122 |
| Styrene                    | 108  | ug/L | 20  | 21.6 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 95.3 | ug/L | 20  | 19.1 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 105  | ug/L | 20  | 21.0 | 74 - 135 |
| Tetrachloroethene          | 115  | ug/L | 20  | 23.0 | 72 - 124 |
| Toluene                    | 102  | ug/L | 20  | 20.3 | 80 - 125 |
| Total Xylenes              | 100  | ug/L | 60  | 60.2 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 106  | ug/L | 20  | 21.3 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 116  | ug/L | 20  | 23.1 | 67 - 123 |
| 1,1,1-Trichloroethane      | 94.6 | ug/L | 20  | 18.9 | 66 - 130 |
| 1,1,2-Trichloroethane      | 94   | ug/L | 20  | 18.8 | 82 - 126 |
| Trichloroethene            | 113  | ug/L | 20  | 22.6 | 77 - 124 |
| Trichlorofluoromethane     | 92.7 | ug/L | 20  | 18.5 | 38 - 123 |
| 1,2,3-Trichloropropane     | 107  | ug/L | 20  | 21.5 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 111  | ug/L | 20  | 22.3 | 76 - 125 |
| Vinyl Acetate              | 107  | ug/L | 20  | 21.4 | 58 - 136 |
| Vinyl Chloride             | 97.7 | ug/L | 20  | 19.5 | 27 - 138 |
| o-Xylene                   | 100  | ug/L | 20  | 20.0 | 79 - 124 |
| mp-Xylene                  | 100  | ug/L | 40  | 40.2 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 73.2 | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 98.8 | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 84.4 | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 86.7 | %    |     |      | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

**QC Batch:** VOMS/50704 **Analysis Method:** SW846 8260B  
**QC Batch Method:** SW846 8260B  
**Associated Lab Samples:** 3029818011

METHOD BLANK: 2938016

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | ND           | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | 0.44J        | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | ND           | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | ND           | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | ND           | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |     |      |          |
|----------------------------|-----|------|----------|
| 1,3-Dichloropropane        | ND  | ug/L | 1.0      |
| 2,2-Dichloropropane        | ND  | ug/L | 1.0      |
| 1,2-Dichloropropane        | ND  | ug/L | 1.0      |
| cis-1,3-Dichloropropene    | ND  | ug/L | 1.0      |
| trans-1,3-Dichloropropene  | ND  | ug/L | 1.0      |
| 1,3-Dichloropropene, Total | ND  | ug/L | 2.0      |
| Diisopropyl ether          | ND  | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND  | ug/L | 1.0      |
| Ethylbenzene               | ND  | ug/L | 1.0      |
| Freon 113                  | ND  | ug/L | 1.0      |
| Hexachlorobutadiene        | ND  | ug/L | 5.0      |
| 2-Hexanone                 | ND  | ug/L | 5.0      |
| Isopropylbenzene           | ND  | ug/L | 1.0      |
| p-Isopropyltoluene         | ND  | ug/L | 1.0      |
| Methyl acetate             | ND  | ug/L | 2.0      |
| Methyl cyclohexane         | ND  | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND  | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND  | ug/L | 5.0      |
| Methylene Chloride         | ND  | ug/L | 1.0      |
| Naphthalene                | ND  | ug/L | 2.0      |
| n-Propylbenzene            | ND  | ug/L | 1.0      |
| Styrene                    | ND  | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| Tetrachloroethene          | ND  | ug/L | 1.0      |
| Toluene                    | ND  | ug/L | 1.0      |
| Total Xylenes              | ND  | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND  | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND  | ug/L | 1.0      |
| Trichloroethene            | ND  | ug/L | 1.0      |
| Trichlorofluoromethane     | ND  | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND  | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | ND  | ug/L | 1.0      |
| Vinyl Acetate              | ND  | ug/L | 5.0      |
| Vinyl Chloride             | ND  | ug/L | 1.0      |
| o-Xylene                   | ND  | ug/L | 1.0      |
| mp-Xylene                  | ND  | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 116 | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 105 | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 104 | %    | 78 - 116 |
| Toluene-d8 (S)             | 103 | %    | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938017

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 99.1         | ug/L  | 100            | 99.1          | 40 - 151       |
| tert-Amyl methyl ether      | 105          | ug/L  | 20             | 21.1          | 75 - 121       |
| Benzene                     | 103          | ug/L  | 20             | 20.7          | 80 - 124       |
| Bromobenzene                | 98.8         | ug/L  | 20             | 19.8          | 81 - 119       |
| Bromochloromethane          | 97.9         | ug/L  | 20             | 19.6          | 73 - 117       |
| Bromodichloromethane        | 105          | ug/L  | 20             | 21.0          | 79 - 126       |
| Bromoform                   | 88.9         | ug/L  | 20             | 17.8          | 70 - 123       |
| Bromomethane                | 106          | ug/L  | 20             | 21.1          | 45 - 148       |
| 2-Butanone                  | 97.8         | ug/L  | 100            | 97.8          | 50 - 152       |
| tert-Butyl Alcohol          | 127          | ug/L  | 100            | 127           | 17 - 168       |
| n-Butylbenzene              | 103          | ug/L  | 20             | 20.6          | 71 - 130       |
| tert-Butylbenzene           | 101          | ug/L  | 20             | 20.1          | 72 - 124       |
| sec-Butylbenzene            | 105          | ug/L  | 20             | 21.0          | 72 - 127       |
| Carbon Disulfide            | 98.2         | ug/L  | 20             | 19.6          | 57 - 131       |
| Carbon Tetrachloride        | 102          | ug/L  | 20             | 20.4          | 62 - 132       |
| Chlorobenzene               | 96.9         | ug/L  | 20             | 19.4          | 85 - 117       |
| Chlorodibromomethane        | 95.5         | ug/L  | 20             | 19.1          | 77 - 122       |
| Chloroethane                | 90           | ug/L  | 20             | 18.0          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 72.5         | ug/L  | 20             | 14.5          | 1 - 150        |
| Chloroform                  | 101          | ug/L  | 20             | 20.2          | 78 - 122       |
| Chloromethane               | 91.3         | ug/L  | 20             | 18.3          | 38 - 156       |
| o-Chlorotoluene             | 101          | ug/L  | 20             | 20.2          | 78 - 126       |
| p-Chlorotoluene             | 102          | ug/L  | 20             | 20.4          | 78 - 125       |
| Cyclohexane                 | 102          | ug/L  | 20             | 20.4          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 97.8         | ug/L  | 20             | 19.6          | 59 - 133       |
| 1,2-Dibromoethane           | 97.2         | ug/L  | 20             | 19.4          | 80 - 124       |
| Dibromomethane              | 106          | ug/L  | 20             | 21.2          | 81 - 125       |
| 1,2-Dichlorobenzene         | 102          | ug/L  | 20             | 20.3          | 82 - 118       |
| 1,3-Dichlorobenzene         | 97.7         | ug/L  | 20             | 19.5          | 81 - 118       |
| 1,4-Dichlorobenzene         | 99.6         | ug/L  | 20             | 19.9          | 81 - 116       |
| Dichlorodifluoromethane     | 83.2         | ug/L  | 20             | 16.6          | 17 - 166       |
| 1,1-Dichloroethane          | 101          | ug/L  | 20             | 20.1          | 78 - 124       |
| 1,2-Dichloroethane          | 110          | ug/L  | 20             | 22.0          | 70 - 133       |
| 1,1-Dichloroethene          | 107          | ug/L  | 20             | 21.4          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 107          | ug/L  | 40             | 43.0          | 78 - 125       |
| cis-1,2-Dichloroethene      | 106          | ug/L  | 20             | 21.1          | 78 - 125       |
| trans-1,2-Dichloroethene    | 109          | ug/L  | 20             | 21.8          | 71 - 122       |
| 1,3-Dichloropropane         | 96           | ug/L  | 20             | 19.2          | 82 - 126       |
| 2,2-Dichloropropane         | 103          | ug/L  | 20             | 20.7          | 64 - 129       |
| 1,2-Dichloropropane         | 103          | ug/L  | 20             | 20.7          | 81 - 127       |
| cis-1,3-Dichloropropene     | 97.6         | ug/L  | 20             | 19.5          | 81 - 121       |
| trans-1,3-Dichloropropene   | 101          | ug/L  | 20             | 20.2          | 78 - 126       |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropene, Total | 99.4 | ug/L | 40  | 39.7 | 80 - 123 |
| Diisopropyl ether          | 106  | ug/L | 20  | 21.3 | 74 - 131 |
| Ethyl tert-butyl ether     | 106  | ug/L | 20  | 21.3 | 75 - 123 |
| Ethylbenzene               | 97.8 | ug/L | 20  | 19.6 | 80 - 124 |
| Freon 113                  | 95.1 | ug/L | 20  | 19.0 | 50 - 130 |
| Hexachlorobutadiene        | 111  | ug/L | 20  | 22.2 | 55 - 128 |
| 2-Hexanone                 | 104  | ug/L | 100 | 104  | 65 - 154 |
| Isopropylbenzene           | 105  | ug/L | 20  | 21.1 | 73 - 129 |
| p-Isopropyltoluene         | 104  | ug/L | 20  | 20.8 | 72 - 123 |
| Methyl acetate             | 101  | ug/L | 20  | 20.1 | 70 - 130 |
| Methyl cyclohexane         | 96.1 | ug/L | 20  | 19.2 | 70 - 130 |
| Methyl t-Butyl Ether       | 104  | ug/L | 20  | 20.8 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 80.2 | ug/L | 100 | 80.2 | 71 - 146 |
| Methylene Chloride         | 101  | ug/L | 20  | 20.1 | 76 - 121 |
| Naphthalene                | 104  | ug/L | 20  | 20.8 | 56 - 134 |
| n-Propylbenzene            | 99.4 | ug/L | 20  | 19.9 | 74 - 122 |
| Styrene                    | 104  | ug/L | 20  | 20.8 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 101  | ug/L | 20  | 20.2 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 97.2 | ug/L | 20  | 19.4 | 74 - 135 |
| Tetrachloroethene          | 102  | ug/L | 20  | 20.4 | 72 - 124 |
| Toluene                    | 97.2 | ug/L | 20  | 19.4 | 80 - 125 |
| Total Xylenes              | 98.9 | ug/L | 60  | 59.3 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 99.7 | ug/L | 20  | 19.9 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 106  | ug/L | 20  | 21.2 | 67 - 123 |
| 1,1,1-Trichloroethane      | 107  | ug/L | 20  | 21.4 | 66 - 130 |
| 1,1,2-Trichloroethane      | 95.4 | ug/L | 20  | 19.1 | 82 - 126 |
| Trichloroethene            | 99.3 | ug/L | 20  | 19.9 | 77 - 124 |
| Trichlorofluoromethane     | 101  | ug/L | 20  | 20.1 | 38 - 123 |
| 1,2,3-Trichloropropane     | 101  | ug/L | 20  | 20.2 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 102  | ug/L | 20  | 20.4 | 76 - 125 |
| Vinyl Acetate              | 99.4 | ug/L | 20  | 19.9 | 58 - 136 |
| Vinyl Chloride             | 94.9 | ug/L | 20  | 19.0 | 27 - 138 |
| o-Xylene                   | 98.7 | ug/L | 20  | 19.7 | 79 - 124 |
| mp-Xylene                  | 98.9 | ug/L | 40  | 39.6 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 114  | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 104  | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 106  | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 101  | %    |     |      | 76 - 127 |

MATRIX SPIKE: 2938114 DUPLICATE: 2938115 ORIGINAL: 3029976004

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                             |         |      |     |         |         |      |      |          |      |    |
|-----------------------------|---------|------|-----|---------|---------|------|------|----------|------|----|
| Acetone                     | 8.66948 | ug/L | 100 | 95.6425 | 110.482 | 87   | 102  | 40 - 151 | 14.4 | 40 |
| tert-Amyl methyl ether      | 0       | ug/L | 20  | 21.9742 | 22.3612 | 110  | 112  | 75 - 121 | 1.75 | 40 |
| Benzene                     | 0       | ug/L | 20  | 21.5598 | 20.9401 | 108  | 105  | 80 - 124 | 2.92 | 26 |
| Bromobenzene                | 0       | ug/L | 20  | 20.9645 | 20.3328 | 105  | 102  | 81 - 119 | 3.06 | 17 |
| Bromochloromethane          | 0       | ug/L | 20  | 21.4809 | 19.7469 | 107  | 98.7 | 73 - 117 | 8.41 | 19 |
| Bromodichloromethane        | 0       | ug/L | 20  | 22.5878 | 21.7913 | 113  | 109  | 79 - 126 | 3.59 | 16 |
| Bromoform                   | 0       | ug/L | 20  | 17.2017 | 17.7945 | 86   | 89   | 70 - 123 | 3.39 | 16 |
| Bromomethane                | .72384  | ug/L | 20  | 17.96   | 20.3658 | 86.2 | 98.2 | 45 - 148 | 12.6 | 26 |
| 2-Butanone                  | 0       | ug/L | 100 | 90.0202 | 100.546 | 90   | 101  | 50 - 152 | 11   | 16 |
| tert-Butyl Alcohol          | 0       | ug/L | 100 | 121.114 | 139.402 | 121  | 139  | 17 - 168 | 14   | 40 |
| n-Butylbenzene              | 0       | ug/L | 20  | 21.9987 | 22.1688 | 110  | 111  | 71 - 130 | .77  | 20 |
| tert-Butylbenzene           | 0       | ug/L | 20  | 21.4549 | 21.229  | 107  | 106  | 72 - 124 | 1.06 | 17 |
| sec-Butylbenzene            | 0       | ug/L | 20  | 22.3738 | 22.5414 | 112  | 113  | 72 - 127 | .75  | 17 |
| Carbon Disulfide            | 0       | ug/L | 20  | 20.2399 | 18.6872 | 101  | 93.4 | 57 - 131 | 7.98 | 28 |
| Carbon Tetrachloride        | 0       | ug/L | 20  | 22.4989 | 21.8721 | 112  | 109  | 62 - 132 | 2.83 | 17 |
| Chlorobenzene               | 0       | ug/L | 20  | 20.4785 | 19.634  | 102  | 98.2 | 85 - 117 | 4.21 | 15 |
| Chlorodibromomethane        | 0       | ug/L | 20  | 20.3333 | 19.9289 | 102  | 99.6 | 77 - 122 | 2.01 | 15 |
| Chloroethane                | 0       | ug/L | 20  | 19.9793 | 19.0357 | 99.9 | 95.2 | 51 - 142 | 4.84 | 24 |
| 2-Chloroethylvinyl ether    | 0       | ug/L | 20  | .0795   | .07607  | .4*  | .38* | 1 - 150  | 4.42 | 40 |
| Chloroform                  | 0       | ug/L | 20  | 21.6908 | 20.6716 | 108  | 103  | 78 - 122 | 4.81 | 16 |
| Chloromethane               | 0       | ug/L | 20  | 18.2151 | 20.0243 | 91.1 | 100  | 38 - 156 | 9.46 | 27 |
| o-Chlorotoluene             | 0       | ug/L | 20  | 21.474  | 21.0793 | 107  | 105  | 78 - 126 | 1.86 | 17 |
| p-Chlorotoluene             | 0       | ug/L | 20  | 21.3945 | 20.9094 | 107  | 105  | 78 - 125 | 2.29 | 16 |
| Cyclohexane                 | 0       | ug/L | 20  | 22.3342 | 21.8363 | 112  | 109  | 66 - 130 | 2.25 | 20 |
| 1,2-Dibromo-3-chloropropane | 0       | ug/L | 20  | 19.0289 | 22.0485 | 95.1 | 110  | 59 - 133 | 14.7 | 26 |
| 1,2-Dibromoethane           | 0       | ug/L | 20  | 20.2635 | 20.2198 | 101  | 101  | 80 - 124 | .22  | 19 |
| Dibromomethane              | 0       | ug/L | 20  | 22.1779 | 21.2724 | 111  | 106  | 81 - 125 | 4.17 | 16 |
| 1,2-Dichlorobenzene         | 0       | ug/L | 20  | 21.222  | 20.8293 | 106  | 104  | 82 - 118 | 1.87 | 15 |
| 1,3-Dichlorobenzene         | 0       | ug/L | 20  | 20.5654 | 20.1046 | 103  | 101  | 81 - 118 | 2.27 | 16 |
| 1,4-Dichlorobenzene         | 0       | ug/L | 20  | 20.8987 | 20.2515 | 104  | 101  | 81 - 116 | 3.15 | 15 |
| Dichlorodifluoromethane     | 0       | ug/L | 20  | 19.5686 | 18.6556 | 97.8 | 93.3 | 17 - 166 | 4.78 | 24 |
| 1,1-Dichloroethane          | 0       | ug/L | 20  | 21.5814 | 20.7897 | 108  | 104  | 78 - 124 | 3.74 | 15 |
| 1,2-Dichloroethane          | 0       | ug/L | 20  | 24.1527 | 23.1099 | 121  | 116  | 70 - 133 | 4.41 | 19 |
| 1,1-Dichloroethene          | 0       | ug/L | 20  | 23.2005 | 22.4219 | 116  | 112  | 63 - 128 | 3.41 | 21 |
| 1,2-Dichloroethene, Total   | 0       | ug/L | 40  | 45.8156 | 44.039  | 115  | 110  | 78 - 125 | 3.95 | 40 |
| cis-1,2-Dichloroethene      | 0       | ug/L | 20  | 22.3441 | 21.6801 | 112  | 108  | 78 - 125 | 3.02 | 21 |
| trans-1,2-Dichloroethene    | 0       | ug/L | 20  | 23.4715 | 22.3589 | 117  | 112  | 71 - 122 | 4.86 | 22 |
| 1,3-Dichloropropane         | 0       | ug/L | 20  | 20.0414 | 19.6238 | 100  | 98.1 | 82 - 126 | 2.11 | 15 |
| 2,2-Dichloropropane         | 0       | ug/L | 20  | 20.7257 | 19.7027 | 104  | 98.5 | 64 - 129 | 5.06 | 18 |
| 1,2-Dichloropropane         | 0       | ug/L | 20  | 21.6141 | 21.0819 | 108  | 105  | 81 - 127 | 2.49 | 15 |
| cis-1,3-Dichloropropene     | 0       | ug/L | 20  | 19.7998 | 18.8377 | 99   | 94.2 | 81 - 121 | 4.98 | 16 |
| trans-1,3-Dichloropropene   | 0       | ug/L | 20  | 20.6622 | 19.9569 | 103  | 99.8 | 78 - 126 | 3.47 | 18 |
| 1,3-Dichloropropene, Total  | 0       | ug/L | 40  | 40.462  | 38.7946 | 101  | 97   | 80 - 123 | 4.21 | 16 |
| Diisopropyl ether           | 0       | ug/L | 20  | 22.4947 | 21.6743 | 112  | 108  | 74 - 131 | 3.71 | 15 |
| Ethyl tert-butyl ether      | 0       | ug/L | 20  | 22.6842 | 21.8632 | 113  | 109  | 75 - 123 | 3.69 | 16 |
| Ethylbenzene                | 0       | ug/L | 20  | 20.8314 | 20.4435 | 104  | 102  | 80 - 124 | 1.88 | 19 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |        |      |     |         |         |      |      |          |      |    |
|----------------------------|--------|------|-----|---------|---------|------|------|----------|------|----|
| Freon 113                  | 0      | ug/L | 20  | 20.9512 | 20.2925 | 105  | 101  | 50 - 130 | 3.19 | 26 |
| Hexachlorobutadiene        | 0      | ug/L | 20  | 22.8576 | 22.0098 | 114  | 110  | 55 - 128 | 3.78 | 35 |
| 2-Hexanone                 | 0      | ug/L | 100 | 101.706 | 111.793 | 102  | 112  | 65 - 154 | 9.45 | 17 |
| Isopropylbenzene           | 0      | ug/L | 20  | 22.4364 | 21.7224 | 112  | 109  | 73 - 129 | 3.23 | 18 |
| p-Isopropyltoluene         | 0      | ug/L | 20  | 22.1205 | 22.4532 | 111  | 112  | 72 - 123 | 1.49 | 17 |
| Methyl acetate             | 0      | ug/L | 20  | 15.3794 | 16.453  | 76.9 | 82.3 | 70 - 130 | 6.75 | 18 |
| Methyl cyclohexane         | 0      | ug/L | 20  | 21.0903 | 20.7113 | 105  | 104  | 70 - 130 | 1.81 | 18 |
| Methyl t-Butyl Ether       | 0      | ug/L | 20  | 21.3677 | 20.8095 | 107  | 104  | 69 - 115 | 2.65 | 20 |
| 4-Methyl-2-Pentanone(MIBK) | 0      | ug/L | 100 | 79.5463 | 85.5928 | 79.5 | 85.6 | 71 - 146 | 7.32 | 16 |
| Methylene Chloride         | 0      | ug/L | 20  | 20.7918 | 20.0472 | 104  | 100  | 76 - 121 | 3.65 | 17 |
| Naphthalene                | 0      | ug/L | 20  | 19.6319 | 21.8742 | 98.2 | 109  | 56 - 134 | 10.8 | 40 |
| n-Propylbenzene            | 0      | ug/L | 20  | 21.3543 | 20.7662 | 107  | 104  | 74 - 122 | 2.79 | 20 |
| Styrene                    | 0      | ug/L | 20  | 21.5177 | 20.3988 | 108  | 102  | 79 - 123 | 5.34 | 16 |
| 1,1,1,2-Tetrachloroethane  | 0      | ug/L | 20  | 21.6478 | 20.8277 | 108  | 104  | 78 - 121 | 3.86 | 16 |
| 1,1,2,2-Tetrachloroethane  | 0      | ug/L | 20  | 19.6644 | 19.8466 | 98.3 | 99.2 | 74 - 135 | .92  | 16 |
| Tetrachloroethene          | 0      | ug/L | 20  | 21.2157 | 20.8358 | 106  | 104  | 72 - 124 | 1.81 | 38 |
| Toluene                    | .25584 | ug/L | 20  | 20.8664 | 20.0381 | 103  | 98.9 | 80 - 125 | 4.05 | 20 |
| Total Xylenes              | 0      | ug/L | 60  | 63.3954 | 61.5749 | 106  | 103  | 79 - 125 | 2.91 | 35 |
| 1,2,3-Trichlorobenzene     | 0      | ug/L | 20  | 20.2757 | 21.0523 | 101  | 105  | 61 - 126 | 3.76 | 36 |
| 1,2,4-Trichlorobenzene     | 0      | ug/L | 20  | 21.7523 | 22.1283 | 109  | 111  | 67 - 123 | 1.71 | 22 |
| 1,1,1-Trichloroethane      | 0      | ug/L | 20  | 23.8717 | 23.1493 | 119  | 116  | 66 - 130 | 3.07 | 20 |
| 1,1,2-Trichloroethane      | 0      | ug/L | 20  | 19.9664 | 19.4541 | 99.8 | 97.3 | 82 - 126 | 2.6  | 15 |
| Trichloroethene            | 0      | ug/L | 20  | 21.2705 | 20.466  | 106  | 102  | 77 - 124 | 3.86 | 18 |
| Trichlorofluoromethane     | 0      | ug/L | 20  | 24.1421 | 23.8429 | 121  | 119  | 38 - 123 | 1.25 | 23 |
| 1,2,3-Trichloropropane     | 0      | ug/L | 20  | 20.3045 | 20.8854 | 102  | 104  | 75 - 132 | 2.82 | 19 |
| 1,2,4-Trimethylbenzene     | 0      | ug/L | 20  | 21.4474 | 20.8234 | 107  | 104  | 76 - 125 | 2.95 | 24 |
| Vinyl Acetate              | 0      | ug/L | 20  | 16.2866 | 16.1281 | 81.4 | 80.6 | 58 - 136 | .98  | 17 |
| Vinyl Chloride             | 0      | ug/L | 20  | 21.0862 | 20.094  | 105  | 100  | 27 - 138 | 4.82 | 40 |
| o-Xylene                   | 0      | ug/L | 20  | 20.9008 | 20.5215 | 105  | 103  | 79 - 124 | 1.83 | 19 |
| mp-Xylene                  | 0      | ug/L | 40  | 42.4946 | 41.0534 | 106  | 103  | 79 - 125 | 3.45 | 21 |
| 1,2-Dichloroethane-d4 (S)  | 119    | %    |     |         |         | 119  | 117  | 62 - 133 |      |    |
| 4-Bromofluorobenzene (S)   | 104    | %    |     |         |         | 104  | 102  | 79 - 114 |      |    |
| Dibromofluoromethane (S)   | 108    | %    |     |         |         | 108  | 106  | 78 - 116 |      |    |
| Toluene-d8 (S)             | 99.8   | %    |     |         |         | 99.8 | 99   | 76 - 127 |      |    |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

**QC Batch:** VOMS/50718 **Analysis Method:** SW846 8260B

**QC Batch Method:** SW846 8260B

**Associated Lab Samples:** 3029818009, 3029818015

METHOD BLANK: 2938830

| Parameter                   | Blank Result | Units | Reporting Limit |
|-----------------------------|--------------|-------|-----------------|
| Acetone                     | ND           | ug/L  | 10.0            |
| tert-Amyl methyl ether      | ND           | ug/L  | 1.0             |
| Benzene                     | ND           | ug/L  | 1.0             |
| Bromobenzene                | ND           | ug/L  | 1.0             |
| Bromochloromethane          | ND           | ug/L  | 1.0             |
| Bromodichloromethane        | ND           | ug/L  | 1.0             |
| Bromoform                   | ND           | ug/L  | 1.0             |
| Bromomethane                | 0.81J        | ug/L  | 1.0             |
| 2-Butanone                  | ND           | ug/L  | 10.0            |
| tert-Butyl Alcohol          | ND           | ug/L  | 10.0            |
| n-Butylbenzene              | ND           | ug/L  | 2.0             |
| tert-Butylbenzene           | ND           | ug/L  | 2.0             |
| sec-Butylbenzene            | ND           | ug/L  | 1.0             |
| Carbon Disulfide            | ND           | ug/L  | 1.0             |
| Carbon Tetrachloride        | ND           | ug/L  | 1.0             |
| Chlorobenzene               | ND           | ug/L  | 1.0             |
| Chlorodibromomethane        | ND           | ug/L  | 1.0             |
| Chloroethane                | ND           | ug/L  | 1.0             |
| 2-Chloroethylvinyl ether    | ND           | ug/L  | 2.0             |
| Chloroform                  | ND           | ug/L  | 1.0             |
| Chloromethane               | ND           | ug/L  | 1.0             |
| o-Chlorotoluene             | ND           | ug/L  | 1.0             |
| p-Chlorotoluene             | ND           | ug/L  | 1.0             |
| Cyclohexane                 | ND           | ug/L  | 1.0             |
| 1,2-Dibromo-3-chloropropane | ND           | ug/L  | 7.0             |
| 1,2-Dibromoethane           | ND           | ug/L  | 1.0             |
| Dibromomethane              | ND           | ug/L  | 1.0             |
| 1,2-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,3-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| 1,4-Dichlorobenzene         | ND           | ug/L  | 1.0             |
| Dichlorodifluoromethane     | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethane          | ND           | ug/L  | 1.0             |
| 1,1-Dichloroethene          | ND           | ug/L  | 1.0             |
| 1,2-Dichloroethene, Total   | ND           | ug/L  | 2.0             |
| cis-1,2-Dichloroethene      | ND           | ug/L  | 1.0             |
| trans-1,2-Dichloroethene    | ND           | ug/L  | 1.0             |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |     |      |          |
|----------------------------|-----|------|----------|
| 1,3-Dichloropropane        | ND  | ug/L | 1.0      |
| 2,2-Dichloropropane        | ND  | ug/L | 1.0      |
| 1,2-Dichloropropane        | ND  | ug/L | 1.0      |
| cis-1,3-Dichloropropene    | ND  | ug/L | 1.0      |
| trans-1,3-Dichloropropene  | ND  | ug/L | 1.0      |
| 1,3-Dichloropropene, Total | ND  | ug/L | 2.0      |
| Diisopropyl ether          | ND  | ug/L | 1.0      |
| Ethyl tert-butyl ether     | ND  | ug/L | 1.0      |
| Ethylbenzene               | ND  | ug/L | 1.0      |
| Freon 113                  | ND  | ug/L | 1.0      |
| Hexachlorobutadiene        | ND  | ug/L | 5.0      |
| 2-Hexanone                 | ND  | ug/L | 5.0      |
| Isopropylbenzene           | ND  | ug/L | 1.0      |
| p-Isopropyltoluene         | ND  | ug/L | 1.0      |
| Methyl acetate             | ND  | ug/L | 2.0      |
| Methyl cyclohexane         | ND  | ug/L | 1.0      |
| Methyl t-Butyl Ether       | ND  | ug/L | 1.0      |
| 4-Methyl-2-Pentanone(MIBK) | ND  | ug/L | 5.0      |
| Methylene Chloride         | ND  | ug/L | 1.0      |
| Naphthalene                | ND  | ug/L | 2.0      |
| n-Propylbenzene            | ND  | ug/L | 1.0      |
| Styrene                    | ND  | ug/L | 1.0      |
| 1,1,1,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| 1,1,2,2-Tetrachloroethane  | ND  | ug/L | 1.0      |
| Tetrachloroethene          | ND  | ug/L | 1.0      |
| Toluene                    | ND  | ug/L | 1.0      |
| Total Xylenes              | ND  | ug/L | 3.0      |
| 1,2,3-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,2,4-Trichlorobenzene     | ND  | ug/L | 2.0      |
| 1,1,1-Trichloroethane      | ND  | ug/L | 1.0      |
| 1,1,2-Trichloroethane      | ND  | ug/L | 1.0      |
| Trichloroethene            | ND  | ug/L | 1.0      |
| Trichlorofluoromethane     | ND  | ug/L | 1.0      |
| 1,2,3-Trichloropropane     | ND  | ug/L | 2.0      |
| 1,2,4-Trimethylbenzene     | ND  | ug/L | 1.0      |
| Vinyl Acetate              | ND  | ug/L | 5.0      |
| Vinyl Chloride             | ND  | ug/L | 1.0      |
| o-Xylene                   | ND  | ug/L | 1.0      |
| mp-Xylene                  | ND  | ug/L | 2.0      |
| 1,2-Dichloroethane-d4 (S)  | 126 | %    | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 105 | %    | 79 - 114 |
| Dibromofluoromethane (S)   | 108 | %    | 78 - 116 |
| Toluene-d8 (S)             | 102 | %    | 76 - 127 |

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

LABORATORY CONTROL SAMPLE: 2938831

| Parameter                   | LCS %<br>Rec | Units | Spike<br>Conc. | LCS<br>Result | % Rec<br>Limit |
|-----------------------------|--------------|-------|----------------|---------------|----------------|
| Acetone                     | 106          | ug/L  | 100            | 106           | 40 - 151       |
| tert-Amyl methyl ether      | 110          | ug/L  | 20             | 22.0          | 75 - 121       |
| Benzene                     | 104          | ug/L  | 20             | 20.7          | 80 - 124       |
| Bromobenzene                | 101          | ug/L  | 20             | 20.3          | 81 - 119       |
| Bromochloromethane          | 100          | ug/L  | 20             | 20.1          | 73 - 117       |
| Bromodichloromethane        | 111          | ug/L  | 20             | 22.2          | 79 - 126       |
| Bromoform                   | 108          | ug/L  | 20             | 21.6          | 70 - 123       |
| Bromomethane                | 127          | ug/L  | 20             | 25.4          | 45 - 148       |
| 2-Butanone                  | 106          | ug/L  | 100            | 106           | 50 - 152       |
| tert-Butyl Alcohol          | 143          | ug/L  | 100            | 143           | 17 - 168       |
| n-Butylbenzene              | 106          | ug/L  | 20             | 21.3          | 71 - 130       |
| tert-Butylbenzene           | 106          | ug/L  | 20             | 21.1          | 72 - 124       |
| sec-Butylbenzene            | 108          | ug/L  | 20             | 21.6          | 72 - 127       |
| Carbon Disulfide            | 102          | ug/L  | 20             | 20.4          | 57 - 131       |
| Carbon Tetrachloride        | 116          | ug/L  | 20             | 23.3          | 62 - 132       |
| Chlorobenzene               | 98.7         | ug/L  | 20             | 19.7          | 85 - 117       |
| Chlorodibromomethane        | 107          | ug/L  | 20             | 21.4          | 77 - 122       |
| Chloroethane                | 95.1         | ug/L  | 20             | 19.0          | 51 - 142       |
| 2-Chloroethylvinyl ether    | 103          | ug/L  | 20             | 20.5          | 1 - 150        |
| Chloroform                  | 106          | ug/L  | 20             | 21.3          | 78 - 122       |
| Chloromethane               | 85.9         | ug/L  | 20             | 17.2          | 38 - 156       |
| o-Chlorotoluene             | 106          | ug/L  | 20             | 21.2          | 78 - 126       |
| p-Chlorotoluene             | 106          | ug/L  | 20             | 21.2          | 78 - 125       |
| Cyclohexane                 | 108          | ug/L  | 20             | 21.6          | 66 - 130       |
| 1,2-Dibromo-3-chloropropane | 119          | ug/L  | 20             | 23.9          | 59 - 133       |
| 1,2-Dibromoethane           | 101          | ug/L  | 20             | 20.3          | 80 - 124       |
| Dibromomethane              | 110          | ug/L  | 20             | 22.0          | 81 - 125       |
| 1,2-Dichlorobenzene         | 104          | ug/L  | 20             | 20.8          | 82 - 118       |
| 1,3-Dichlorobenzene         | 101          | ug/L  | 20             | 20.2          | 81 - 118       |
| 1,4-Dichlorobenzene         | 103          | ug/L  | 20             | 20.5          | 81 - 116       |
| Dichlorodifluoromethane     | 77.4         | ug/L  | 20             | 15.5          | 17 - 166       |
| 1,1-Dichloroethane          | 107          | ug/L  | 20             | 21.4          | 78 - 124       |
| 1,2-Dichloroethane          | 121          | ug/L  | 20             | 24.2          | 70 - 133       |
| 1,1-Dichloroethene          | 115          | ug/L  | 20             | 22.9          | 63 - 128       |
| 1,2-Dichloroethene, Total   | 113          | ug/L  | 40             | 45.1          | 78 - 125       |
| cis-1,2-Dichloroethene      | 110          | ug/L  | 20             | 22.1          | 78 - 125       |
| trans-1,2-Dichloroethene    | 115          | ug/L  | 20             | 23.0          | 71 - 122       |
| 1,3-Dichloropropane         | 97.9         | ug/L  | 20             | 19.6          | 82 - 126       |
| 2,2-Dichloropropane         | 118          | ug/L  | 20             | 23.6          | 64 - 129       |
| 1,2-Dichloropropane         | 103          | ug/L  | 20             | 20.7          | 81 - 127       |
| cis-1,3-Dichloropropene     | 102          | ug/L  | 20             | 20.3          | 81 - 121       |
| trans-1,3-Dichloropropene   | 106          | ug/L  | 20             | 21.2          | 78 - 126       |

**ALS Environmental Laboratory Locations Across North America**

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Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                            |      |      |     |      |          |
|----------------------------|------|------|-----|------|----------|
| 1,3-Dichloropropene, Total | 104  | ug/L | 40  | 41.5 | 80 - 123 |
| Diisopropyl ether          | 109  | ug/L | 20  | 21.8 | 74 - 131 |
| Ethyl tert-butyl ether     | 111  | ug/L | 20  | 22.3 | 75 - 123 |
| Ethylbenzene               | 103  | ug/L | 20  | 20.5 | 80 - 124 |
| Freon 113                  | 104  | ug/L | 20  | 20.7 | 50 - 130 |
| Hexachlorobutadiene        | 114  | ug/L | 20  | 22.8 | 55 - 128 |
| 2-Hexanone                 | 117  | ug/L | 100 | 117  | 65 - 154 |
| Isopropylbenzene           | 109  | ug/L | 20  | 21.8 | 73 - 129 |
| p-Isopropyltoluene         | 106  | ug/L | 20  | 21.2 | 72 - 123 |
| Methyl acetate             | 108  | ug/L | 20  | 21.6 | 70 - 130 |
| Methyl cyclohexane         | 100  | ug/L | 20  | 20.1 | 70 - 130 |
| Methyl t-Butyl Ether       | 106  | ug/L | 20  | 21.2 | 69 - 115 |
| 4-Methyl-2-Pentanone(MIBK) | 89.2 | ug/L | 100 | 89.2 | 71 - 146 |
| Methylene Chloride         | 100  | ug/L | 20  | 20.0 | 76 - 121 |
| Naphthalene                | 112  | ug/L | 20  | 22.3 | 56 - 134 |
| n-Propylbenzene            | 102  | ug/L | 20  | 20.5 | 74 - 122 |
| Styrene                    | 102  | ug/L | 20  | 20.5 | 79 - 123 |
| 1,1,1,2-Tetrachloroethane  | 106  | ug/L | 20  | 21.1 | 78 - 121 |
| 1,1,2,2-Tetrachloroethane  | 103  | ug/L | 20  | 20.6 | 74 - 135 |
| Tetrachloroethene          | 106  | ug/L | 20  | 21.3 | 72 - 124 |
| Toluene                    | 99   | ug/L | 20  | 19.8 | 80 - 125 |
| Total Xylenes              | 103  | ug/L | 60  | 61.6 | 79 - 125 |
| 1,2,3-Trichlorobenzene     | 106  | ug/L | 20  | 21.3 | 61 - 126 |
| 1,2,4-Trichlorobenzene     | 112  | ug/L | 20  | 22.3 | 67 - 123 |
| 1,1,1-Trichloroethane      | 120  | ug/L | 20  | 23.9 | 66 - 130 |
| 1,1,2-Trichloroethane      | 98   | ug/L | 20  | 19.6 | 82 - 126 |
| Trichloroethene            | 103  | ug/L | 20  | 20.6 | 77 - 124 |
| Trichlorofluoromethane     | 118  | ug/L | 20  | 23.6 | 38 - 123 |
| 1,2,3-Trichloropropane     | 110  | ug/L | 20  | 22.0 | 75 - 132 |
| 1,2,4-Trimethylbenzene     | 105  | ug/L | 20  | 21.0 | 76 - 125 |
| Vinyl Acetate              | 108  | ug/L | 20  | 21.6 | 58 - 136 |
| Vinyl Chloride             | 88.8 | ug/L | 20  | 17.8 | 27 - 138 |
| o-Xylene                   | 102  | ug/L | 20  | 20.4 | 79 - 124 |
| mp-Xylene                  | 103  | ug/L | 40  | 41.2 | 79 - 125 |
| 1,2-Dichloroethane-d4 (S)  | 123  | %    |     |      | 62 - 133 |
| 4-Bromofluorobenzene (S)   | 104  | %    |     |      | 79 - 114 |
| Dibromofluoromethane (S)   | 109  | %    |     |      | 78 - 116 |
| Toluene-d8 (S)             | 100  | %    |     |      | 76 - 127 |

MATRIX SPIKE: 2938847 DUPLICATE: 2938848 ORIGINAL: 3030432008

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|

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**QUALITY CONTROL DATA**

Workorder: 3029818 LMC MRC / 95840ACM

|                           |         |      |    |         |         |      |     |          |      |    |
|---------------------------|---------|------|----|---------|---------|------|-----|----------|------|----|
| Benzene                   | 6.98378 | ug/L | 20 | 29.3634 | 27.9152 | 112  | 105 | 80 - 124 | 5.06 | 26 |
| Ethylbenzene              | 0       | ug/L | 20 | 21.1023 | 21.4746 | 106  | 107 | 80 - 124 | 1.75 | 19 |
| Isopropylbenzene          | .66437  | ug/L | 20 | 23.9372 | 22.8402 | 116  | 111 | 73 - 129 | 4.69 | 18 |
| Methyl t-Butyl Ether      | 0       | ug/L | 20 | 22.7857 | 22.4215 | 114  | 112 | 69 - 115 | 1.61 | 20 |
| Naphthalene               | 0       | ug/L | 20 | 19.9367 | 22.1897 | 99.7 | 111 | 56 - 134 | 10.7 | 40 |
| Toluene                   | .47813  | ug/L | 20 | 21.1593 | 21.6048 | 103  | 106 | 80 - 125 | 2.08 | 20 |
| Total Xylenes             | .7592   | ug/L | 60 | 64.0288 | 65.7789 | 105  | 108 | 79 - 125 | 2.7  | 35 |
| 1,2,4-Trimethylbenzene    | 0       | ug/L | 20 | 22.2097 | 21.5314 | 111  | 108 | 76 - 125 | 3.1  | 24 |
| o-Xylene                  | 0       | ug/L | 20 | 20.7339 | 21.9211 | 104  | 110 | 79 - 124 | 5.57 | 19 |
| mp-Xylene                 | .7592   | ug/L | 40 | 43.2949 | 43.8579 | 106  | 108 | 79 - 125 | 1.29 | 21 |
| 1,2-Dichloroethane-d4 (S) | 122     | %    |    |         |         | 122  | 118 | 62 - 133 |      |    |
| 4-Bromofluorobenzene (S)  | 105     | %    |    |         |         | 105  | 103 | 79 - 114 |      |    |
| Dibromofluoromethane (S)  | 107     | %    |    |         |         | 107  | 106 | 78 - 116 |      |    |
| Toluene-d8 (S)            | 98      | %    |    |         |         | 98   | 104 | 76 - 127 |      |    |

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 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

### QUALITY CONTROL DATA QUALIFIERS

Workorder: 3029818 LMC MRC / 95840ACM

#### QUALITY CONTROL PARAMETER QUALIFIERS

| Lab ID  | # | Sample Type          | Analytical Method | Analyte                  |
|---|---|----------------------|-------------------|--------------------------|
| <b>2938012</b>  | 1 | Method Blank         | SW846 8260B       | Naphthalene              |
| The Method Blank for method SW846 8260B reported a value greater than the reporting level for the analyte Naphthalene.  |   |                      |                   |                          |
| <b>2938013</b>  | 2 | Lab Control Standard | SW846 8260B       | 2-Chloroethylvinyl ether |
| The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte 2-Chloroethylvinyl ether. The % Recovery was reported as 153 and the control limits were 1 to 150. |   |                      |                   |                          |
| <b>2938013</b>  | 3 | Lab Control Standard | SW846 8260B       | tert-Amyl methyl ether   |
| The QC sample type LCS for method SW846 8260B was outside the control limits for the analyte tert-Amyl methyl ether. The % Recovery was reported as 125 and the control limits were 75 to 121.  |   |                      |                   |                          |

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 Vancouver Waterloo · Winnipeg · Yellowknife **United States:** Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York **Mexico:** Monterrey

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Workorder: 3029818 LMC MRC / 95840ACM

| Lab ID     | Sample ID           | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|------------|---------------------|-------------|------------|-----------------|----------------|
| 3029818001 | MRC-SW2A-042419     | SW846 3510C | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029818002 | MRC-SW1A-042419     | SW846 3510C | EXTR/56278 | 8270 SIM        | SVMS/32998     |
| 3029818001 | MRC-SW2A-042419     |             |            | SW846 8260B     | VOMS/50700     |
| 3029818002 | MRC-SW1A-042419     |             |            | SW846 8260B     | VOMS/50700     |
| 3029818003 | MRC-SW5B-S-042419   |             |            | SW846 8260B     | VOMS/50700     |
| 3029818004 | MRC-SW5A1-S-042419  |             |            | SW846 8260B     | VOMS/50700     |
| 3029818005 | MRC-SW5A2-S-042419  |             |            | SW846 8260B     | VOMS/50700     |
| 3029818006 | TB-042419-1         |             |            | SW846 8260B     | VOMS/50700     |
| 3029818007 | MRC-SW11B-S-042419  |             |            | SW846 8260B     | VOMS/50700     |
| 3029818008 | MRC-SW13A-S-042419  |             |            | SW846 8260B     | VOMS/50700     |
| 3029818010 | MRC-SW11A-S-0424219 |             |            | SW846 8260B     | VOMS/50702     |
| 3029818012 | MRC-SW18A-S-042419  |             |            | SW846 8260B     | VOMS/50702     |
| 3029818013 | MRC-SW16A-S-042419  |             |            | SW846 8260B     | VOMS/50702     |
| 3029818014 | MRC-SW15A-S-042419  |             |            | SW846 8260B     | VOMS/50702     |
| 3029818011 | TB-042419-2         |             |            | SW846 8260B     | VOMS/50704     |
| 3029818009 | MRC-SW12A-S-042419  |             |            | SW846 8260B     | VOMS/50718     |
| 3029818015 | TB-042419-3         |             |            | SW846 8260B     | VOMS/50718     |

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 Vancouver Waterloo · Winnipeg · Yellowknife United States: Cincinnati · Everett · Fort Collins · Holland · Houston · Middletown · Salt Lake City · Spring City · York Mexico: Monterrey

34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430



**Environmental**

**Client Name:** AECOM  
**Address:** 12420 Milestone Center Drive, Suite 150  
Germantown, MD 20876  
**Contact:** Ravi Damara & Holly Brown  
**Phone#:** 301-674-3199  
**Project Name#:** LMC MRC / 95840ACM  
**Bill To:** Ravi Damara

Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.

**Date Required:**  Approved?  
**Email?**  -Y ravi.damara@aecom.com  
**Fax?**  -Y No:

**Container Type**    **CG**    **AG**    **P**    **P**    **AG**    **CG**    **P**    **P**    **P**    **AG**    **P**    **P**    **AG**    **P**    **P**    **AG**    **P**    **P**    **AG**

**Container Size**    40mL    1L    250mL    250mL    500mL    250mL    250mL    250mL    40mL    40mL    1L    250mL    250mL    40mL    40mL    1L    250mL    250mL    40mL    40mL

**Phase/Info**    HCl    -    HNO3    NH4OH    -    HCl    -    -    -    -    -    -    -    -    -    -    -    -    -    -    -

**ANALYSES/METHOD REQUESTED**

VOCs (8260C)    1,4-Dioxane (8270D SIM)    TAL Metals (6010C/6020A/7470A)    Hexavalent Chromium (218.6)    PCB Homologs (680/8260C)    MEE (RSK 175)    MnA (Cl, NO2, NO3, SO4, TDS, Ortho)    Alkalinity (S2320B)    Ammonia-N (06919)    TOC (55310B)

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time | G or C | Enter Number of Containers Per Sample or Field Results Below. |    | ALS Field Services:<br>- Composite Sampling<br>- Rental Equipment<br>- Other: |
|--|-------------|------|--------|---|----|---|
|  |             |      |        | SW  | WQ |   |
| MRC-SW2A-042419  | 4/24/2019   | 1040 | G      | 2   | 2  |   |
| MRC-SW1A-042419  | 4/24/2019   | 1015 | G      | 2   | 2  |   |
| MRC-SW5B-S-042419  | 4/24/2019   | 1120 | G      | 2   | 2  |   |
| MRC-SW5A1-S-042419   | 4/24/2019   | 1145 | G      | 2   | 2  |   |
| MRC-SW5A2-S-042419   | 4/24/2019   | 1200 | G      | 2   | 2  |   |
| TB-042419-1  | NA          | NA   | G      | 2   | 2  | Trip Blank  |

**Project Comments:** Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

**Relinquished By / Company Name:** *Ravi Damara* / AECOM

**Received By / Company Name:** *Abby Pountos* / AECOM

**Date:** 4/24/2019    **Time:** 10:40

**Date:** 4/22/2019    **Time:** 10:36

**Date:** 4/24/2019    **Time:** 12:30

**Date:**    **Time:**    **Date:**    **Time:**

**LOGGED BY (signature):** \_\_\_\_\_

**REVIEWED BY (signature):** \_\_\_\_\_

**Matrix:** - A=Air, DW=Drinking Water, GW=Groundwater, O=Oil, OL=Other Liquid, SL=Sludge, SO=Soil, WP=Wipe, WW=Wastewater

**Matrix:** - G=Grab, C=Composite

**Standard Deliverables:**  Standard     CLP-like     USACE

**Special Processing:** USACE  Navy  State Samples Collected In: NY  NJ  PA  NC

**Reportable to PADEP?** Yes  No     **Sample Disposal:** Lab  Special

**PWSID #:** \_\_\_\_\_

**EDDS:** Formal Type: EQuIS and CSV

COC  
ALS

1 of 3  
\* 3 0 2 9 8 1 8 \*

**Receipt Information (Completed by Receiving Lab)**

**Cooler Temp:** 3    **Therm ID:** 4C1

**No. of Coolers:**    Y    N    Initial

Custody Seals Present?  (If present) Seals Intact?  Received on Ice?  COCLabels Complete/Accurate?  Cont. in Good Cond.?  Correct Containers?  Correct Sample Volumes?  Correct Preservation?  Headspace/Volatiles?

**Courier Tracking #:** \_\_\_\_\_

**Sample/COC Comments:** \_\_\_\_\_

34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**  
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/  
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 3029818  
ALS Quote #: 2 of 3

**Environmental**

Client Name: AECOM

Address: 12420 Milestone Center Drive, Suite 150

Germanstown, MD 20876

Contact: Ravi Damara & Holly Brown

Phone#: 301-674-3199

Project Name#: LMC MRC / 95840ACM

Bill To: Ravi Damara

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.

Date Required:  -Y ravi.damara@aecom.com Approved?

Email?  -Y ravi.damara@aecom.com

Fax?  -Y No.

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time | G or C | Matrix |
|--|-------------|------|--------|--------|
| MRC-SW11B-S-042419   | 4/24/2019   | 1400 | G      | SW     |
| MRC-SW13A-S-042419   | 4/24/2019   | 1300 | G      | SW     |
| MRC-SW12A-S-042419   | 4/24/2019   | 1320 | G      | SW     |
| MRC-SW11A-S-042419   | 4/24/2019   | 1335 | G      | SW     |
| TB-042419-2  | NA          | NA   | G      | WQ     |

|                |      |    |       |       |      |       |       |       |      |       |       |      |       |      |
|----------------|------|----|-------|-------|------|-------|-------|-------|------|-------|-------|------|-------|------|
| Container Type | CG   | AG | P     | P     | AG   | CG    | P     | P     | AG   | P     | P     | AG   | P     | AG   |
| Container Size | 40mL | 1L | 250mL | 500mL | 40mL | 250mL | 250mL | 250mL | 40mL | 250mL | 250mL | 40mL | 250mL | 40mL |
| Preservative   | HCl  |    | HNO3  | NH4OH | HCl  |       |       |       | HCl  |       |       | HCl  |       | HCl  |

Receipt Information (completed by Receiving Lab)  
Cooler Temp: 3 Therm ID: 4C  
No. of Coolers: Y N Initial

Custody Seals Present? (if present) Seals Intact? Received on Ice? COC Labels Complete/Accurate? Cont. in Good Cond.? Correct Containers? Correct Sample Volumes? Correct Preservation? Headspace/Volatiles?

ALS Field Services:  Pickup  Labor  Composite Sampling  Rental Equipment  Other:

| Enter Number of Containers Per Sample or Field Results Below. | 1,4-Dioxane (8270D SIM) | TAL Metals (6010C/6020A/7470A) | Hexavalent Chromium (218.6) | PCH Homologs (680/8260C) | MEE (RSK 175) | MNA (Cl, NO2, NO3, SO4, TDS, Ortho) | Alkalinity (S2320B) | Ammonia-N (D6919) | TOC (55310B) |
|---|-------------------------|--------------------------------|-----------------------------|--------------------------|---------------|-------------------------------------|---------------------|-------------------|--------------|
| 2   | 2                       | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            |

LOGGED BY (signature):  
REVIEWED BY (signature):

| Date    | Time | Received By / Company Name |
|---------|------|----------------------------|
| 4/24/19 | 1430 | Ravi Damara                |
| 4/24    | 1330 | Holly Brown                |

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

Relinquished By / Company Name: Ravi Damara

State Samples Collected In: NY  NJ  PA  NC

Special Processing: USACE  Navy

Reportable to PADEP? Yes  No  PWSID #

Sample Disposal: Lab  Special

EDDS: Format Type: EQulS and .csv

34 Dogwood Lane  
Middletown, PA 17057  
P. 717-944-5541  
F. 717-944-1430



**Environmental**

Client Name: AECOM  
Address: 12420 Milestone Center Drive, Suite 150  
Germanstown, MD 20876  
Contact: Ravi Damara & Holly Brown  
Phone#: 301-674-3199  
Project Name#: LMC MRC / 95840ACM  
Bill To: Ravi Damara

TAT  Normal-Standard TAT is 10-12 business days.  
 Rush-Subject to ALS approval and surcharges.  
Date Required: \_\_\_\_\_ Approved?  
Email?  -Y ravi.damara@aecom.com  
Fax?  -Y No: \_\_\_\_\_

| Sample Description/Location<br>(as it will appear on the lab report) | Sample Date | Time |
|--|-------------|------|
| MRC-SW18A-S-042419   | 4/24/2019   | 1245 |
| MRC-SW16A-S-042419   | 4/24/2019   | 1435 |
| MRC-SW15A-S-042419   | 4/24/2019   | 1420 |
| TB-042419-3  | NA          | NA   |

**CHAIN OF CUSTODY/  
REQUEST FOR ANALYSIS**  
ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT/  
SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: 309988 of 3  
ALS Quote #: 3

|   |                         |                                |                             |                          |               |                                     |                     |                   |              |   |       |      |   |  |  |
|---|-------------------------|--------------------------------|-----------------------------|--------------------------|---------------|-------------------------------------|---------------------|-------------------|--------------|---|-------|------|---|--|--|
| Container Type  | CG                      | AG                             | P                           | P                        | CG            | P                                   | P                   | P                 | P            | AG  | P     | AG   | Receipt Information (Completed by Receiving Lab)        |  |  |
| Container Size  | 40mL                    | 1L                             | 250mL                       | 500mL                    | 40mL          | 250mL                               | 500mL               | 250mL             | 250mL        | 1L  | 40mL  | 40mL | Cooler Temp: <u>3</u> Therm ID: <u>4c</u>               |  |  |
| Preservative  | HCl                     |                                | HNO3                        | NH4OH                    | HCl           |                                     |                     |                   |              |   | H2SO4 | HCl  | No. of Coolers: _____ Y N Initial                       |  |  |
| <b>ANALYSES/METHOD REQUESTED</b>  |                         |                                |                             |                          |               |                                     |                     |                   |              |   |       |      |   |  |  |
| VOCs (8260C)  | 1,4-Dioxane (8270D SIM) | TAL Metals (6010C/6020A/7470A) | Hexavalent Chromium (218.5) | PCH Homologs (680/8260C) | MEE (RSK 175) | MNA (Cl, NO2, NO3, SO4, TDS, Ortho) | Alkalinity (S2320B) | Ammonia-N (D6919) | TOC (55310B) |   |       |      |   |  |  |
| Enter Number of Containers Per Sample or Field Results Below.   |                         |                                |                             |                          |               |                                     |                     |                   |              | Sample/COC Comments                               |       |      |   |  |  |
| 2   | 2                       | 2                              | 2                           | 2                        | 2             | 2                                   | 2                   | 2                 | 2            | Trip Blank  |       |      |   |  |  |
| ALS Field Services: <u>    </u> Pickup <u>    </u> Labor <u>    </u><br><u>    </u> Composite Sampling <u>    </u> Rental Equipment <u>    </u><br><u>    </u> Other: <u>    </u> |                         |                                |                             |                          |               |                                     |                     |                   |              | Special Processing                                |       |      | State Samples Collected In                              |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | USACE <input type="checkbox"/>                    |       |      | NY <input type="checkbox"/>                             |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | Navy <input type="checkbox"/>                     |       |      | NJ <input type="checkbox"/>                             |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | USACE <input type="checkbox"/>                    |       |      | PA <input type="checkbox"/>                             |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | USACE <input type="checkbox"/>                    |       |      | NC <input type="checkbox"/>                             |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | Reportable to PADEP? Yes <input type="checkbox"/> |       |      | Sample Disposal Lab <input checked="" type="checkbox"/> |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | PWSID #   |       |      | Special <input type="checkbox"/>                        |  |  |
|   |                         |                                |                             |                          |               |                                     |                     |                   |              | EDDS: Formal Type- EQuIS and CSV                  |       |      |   |  |  |

Project Comments: Please also email data to holly.brown@aecom.com and naoum.tavantzis@aecom.com

Relinquished By / Company Name: Ravi Damara / AECOM

Received By / Company Name: Holly Brown / AECOM

Date: 4/24/19 Time: 10:56

Date: 4/24/19 Time: 16:36

LOGGED BY (signature): \_\_\_\_\_

REVIEWED BY (signature): \_\_\_\_\_





301 Fulling Mill Road  
Middletown, PA 17057

P: (717) 944-5541  
F: (717) 944-1430

# Condition of Sample Receipt Form

Client: AECOM Work Order #: 302988 Initials: CW Date: 4-25-19

- |  |             |            |           |
|--|-------------|------------|-----------|
| 1. Were airbills / tracking numbers present and recorded?.....   | <u>NONE</u> | YES        | NO        |
| Tracking number: _____   |             |            |           |
| 2. Are Custody Seals on shipping containers intact?.....   | <u>NONE</u> | YES        | NO        |
| 3. Are Custody Seals on sample containers intact?.....   | <u>NONE</u> | YES        | NO        |
| 4. Is there a COC (Chain-of-Custody) present?.....   | <u>YES</u>  | YES        | NO        |
| 5. Are the COC and bottle labels complete, legible and in agreement?.....  | <u>YES</u>  | YES        | NO        |
| 5a. Does the COC contain sample locations?.....  | <u>YES</u>  | YES        | NO        |
| 5b. Does the COC contain date and time of sample collection for all samples?.....  | <u>YES</u>  | YES        | NO        |
| 5c. Does the COC contain sample collectors name?.....  | <u>YES</u>  | YES        | NO        |
| 5d. Does the COC note the type(s) of preservation for all bottles?.....  | <u>YES</u>  | YES        | NO        |
| 5e. Does the COC note the number of bottles submitted for each sample?.....  | <u>YES</u>  | YES        | NO        |
| 5f. Does the COC note the type of sample, composite or grab?.....  | <u>YES</u>  | YES        | NO        |
| 5g. Does the COC note the matrix of the sample(s)?.....  | <u>YES</u>  | YES        | NO        |
| 6. Are all aqueous samples requiring preservation preserved correctly? .....   | N/A         | <u>YES</u> | NO        |
| 7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?.....             |             | <u>YES</u> | NO        |
| 8. Are all samples within holding times for the requested analyses?.....   |             | <u>YES</u> | NO        |
| 9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... |             | <u>YES</u> | NO        |
| 10. Did we receive trip blanks ( applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?.....                     | N/A         | <u>YES</u> | NO        |
| 11. Were the samples received on ice?.....   |             | <u>YES</u> | NO        |
| 12. Were sample temperatures measured at 0.0-6.0°C.....  |             | <u>YES</u> | NO        |
| 13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below.....                          |             | YES        | <u>NO</u> |
| 13a. Are the samples required for SDWA compliance reporting?.....  | <u>N/A</u>  | YES        | NO        |
| 13b. Did the client provide a SDWA PWS ID#?.....   | <u>N/A</u>  | YES        | NO        |
| 13c. Are all aqueous unpreserved SDWA samples pH 5-9?.....   | <u>N/A</u>  | YES        | NO        |
| 13d. Did the client provide the SDWA sample location ID/Description?.....  | <u>N/A</u>  | YES        | NO        |
| 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?.....  | <u>N/A</u>  | YES        | NO        |

Cooler #: 1  
Temperature (°C): 3  
Thermometer ID: 401

COMMENTS (Required for all NO responses above and any sample non-conformance):  
Not DW. 6/4-25-19





May 01, 2019

Service Request No: R1903686

Vanessa Badman  
ALS Environmental  
34 Dogwood Lane  
Middletown, PA 17057

**Laboratory Results for: UR115: 3029818**

Dear Vanessa,

Enclosed are the results of the sample(s) submitted to our laboratory April 27, 2019  
For your reference, these analyses have been assigned our service request number **R1903686**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at [Janice.Jaeger@alsglobal.com](mailto:Janice.Jaeger@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Janice Jaeger  
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
PHONE +1 585 288 5380 FAX +1 585 288 8475  
ALS Group USA, Corp.  
dba ALS Environmental



## Narrative Documents

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water

**Service Request:** R1903686  
**Date Received:** 04/27/2019

#### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

#### Sample Receipt:

Ten water samples were received for analysis at ALS Environmental on 04/27/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

#### Semivolatiles by GC/MS:

Method 680, 04/28/19: Samples were associated with a closing CCV which failed due to a failed internal standard response. Since none of the reported samples had failed internal standard responses, the failure in the CCV is not representative of the samples. The CCV analyzed after the failure passed criteria and was used to accept the sample results. This CCV was run 7 minutes out of tune time.

Method 680, 04/28/2019: The control limit was exceeded for one or more surrogates in the closing Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/28/2019: The upper control limit was exceeded for one or more analytes in the closing Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 680, 04/30/2019: The control limits were exceeded for analytes in the Continuing Calibration Verification (CCV). The QC failure was most likely due to the composition of the sample(s) immediately preceding the failing CCV. In order to protect the integrity of the instrument, no further corrective action was taken. Results should be considered estimated.

Method 680, R1903686-006, -007, -008, -009, -010: The control limits were exceeded for one or more surrogates due to suspected matrix interferences. Blanks were run between samples to help eliminate the matrix interference. Although it helped, some of the surrogates still failed. There is a steady decline in response with each sample that ran.

*Jamark*

Approved by \_\_\_\_\_

Date 05/01/2019

**SAMPLE DETECTION SUMMARY**

| CLIENT ID: 3029818 003   |         | Lab ID: R1903686-001 |        |        |       |        |
|--------------------------|---------|----------------------|--------|--------|-------|--------|
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0043  | J                    | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 004   |         | Lab ID: R1903686-002 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0035  | J                    | 0.0023 | 0.0050 | ug/L  | 680    |
| CLIENT ID: 3029818 005   |         | Lab ID: R1903686-003 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0070  |                      | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 007   |         | Lab ID: R1903686-004 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0054  | J                    | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 008   |         | Lab ID: R1903686-005 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0082  |                      | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 009   |         | Lab ID: R1903686-006 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0052  |                      | 0.0024 | 0.0052 | ug/L  | 680    |
| CLIENT ID: 3029818 010   |         | Lab ID: R1903686-007 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0054  | J                    | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 012   |         | Lab ID: R1903686-008 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0030  | J                    | 0.0023 | 0.0050 | ug/L  | 680    |
| CLIENT ID: 3029818 013   |         | Lab ID: R1903686-009 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0076  |                      | 0.0025 | 0.0054 | ug/L  | 680    |
| CLIENT ID: 3029818 014   |         | Lab ID: R1903686-010 |        |        |       |        |
| Analyte                  | Results | Flag                 | MDL    | MRL    | Units | Method |
| Dichlorobiphenyls, Total | 0.0059  |                      | 0.0025 | 0.0054 | ug/L  | 680    |



## Sample Receipt Information

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





**Client:** ALS Environmental - US  
**Project:** UR115: 3029818

**Service Request:** R1903686

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R1903686-001    | 3029818.003             | 4/24/2019   | 1120        |
| R1903686-002    | 3029818.004             | 4/24/2019   | 1145        |
| R1903686-003    | 3029818.005             | 4/24/2019   | 1200        |
| R1903686-004    | 3029818.007             | 4/24/2019   | 1400        |
| R1903686-005    | 3029818.008             | 4/24/2019   | 1300        |
| R1903686-006    | 3029818.009             | 4/24/2019   | 1320        |
| R1903686-007    | 3029818.010             | 4/24/2019   | 1335        |
| R1903686-008    | 3029818.012             | 4/24/2019   | 1245        |
| R1903686-009    | 3029818.013             | 4/24/2019   | 1435        |
| R1903686-010    | 3029818.014             | 4/24/2019   | 1420        |



# CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS


Generated by ALS

|              |    |
|--------------|----|
| COC #:       | 1  |
|              | of |
| ALS Quote #: | 1  |

34 Dogwood Lane • Middletown, PA 17057 • Phone: 717.944.5541 • Fax: 717.944.1430 • www.alsenv.com

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT /  
SAMPLER. INSTRUCTIONS ON THE BACK.

|  |             |      |   |   |    |         |   |                              |   |  |  |  |                                     |
|--|-------------|------|---|---|----|---------|---|------------------------------|---|--|--|--|-------------------------------------|
| Client Name: ALS Environmental   |             |      | Container Type  | AN  |    |         |   |                              |   | Receipt Information (completed by Receiving Lab) |  |  |                                     |
| Address: 34 Dogwood Lane<br>Middletown, PA 17057   |             |      | Container Size  | 1L  |    |         |   |                              |   | Cooler Temp:                                     | Therm ID:  |  |                                     |
| Contact: Vanessa Badman  |             |      | Preservative  | None  |    |         |   |                              |   | No. of Coolers:                                  | Y  | N  | Initial                             |
| Phone#: (717) 944-5541   |             |      | ANALYSES/METHOD REQUESTED   |   |    |         |   |                              |   |  |  |  |                                     |
| Project Name/ #: UR115: 3029818  |             |      |   |   |    |         |   |                              |   |  |  |  |                                     |
| Bill To: ALS Environmental   |             |      |   |   |    |         |   |                              |   |  |  |  |                                     |
| TAT <input type="checkbox"/> Normal-Standard TAT is 10-12 business days.<br><input checked="" type="checkbox"/> Rush-Subject to ALS approval and surcharges. |             |      |   |   |    |         |   |                              |   |  |  |  |                                     |
| Date Required: 5/3/2019 Approved By: _____   |             |      |   |   |    |         |   |                              |   |  |  |  |                                     |
| Email? <input type="checkbox"/> -Y   |             |      | *G or C<br>**Matrix<br>680 (PCB Homologs)<br>*Report to the MDL, QC lab report needed, EQUIS EDD and BASIC EDD. | Enter Number of Containers Per Sample or Field Results Below. |    |         |   |                              |   | Courier/Tracking #:                              |  |  |                                     |
| Fax? <input type="checkbox"/> -Y No.:  |             |      |   |   |    |         |   |                              |   | Sample/COC Comments                              |  |  |                                     |
| Sample Description/Location<br>(as it will appear on the lab report)   | Sample Date | Time |   |   |    |         |   |                              |   |  |  |  |                                     |
| 1 3029818 003  | 4/24/19     | 1120 |   | G   | WT | 2       | *   |                              |   |  |  |  |                                     |
| 2 3029818 004  | 4/24/19     | 1145 |   | G   | WT | 2       | *   |                              |   |  |  |  | Sub to ALS Rochester                |
| 3 3029818 005  | 4/24/19     | 1200 |   | G   | WT | 2       | *   |                              |   |  |  |  |                                     |
| 4 3029818 007  | 4/24/19     | 1400 |   | G   | WT | 2       | *   |                              |   |  |  |  |                                     |
| 5 3029818 008  | 4/24/19     | 1300 |   | G   | WT | 2       | *   |                              |   |  |  |  |                                     |
| 6 3029818 009  | 4/24/19     | 1320 |   | G   | WT | 2       | *   |                              |   |  |  |  | R1903686 5                          |
| 7 3029818 010  | 4/24/19     | 1335 |   | G   | WT | 2       | *   |                              |   |  |  |  | ALS Environmental<br>UR115: 3029818 |
| 8 3029818 012  | 4/24/19     | 1245 | G   | WT  | 2  | *       |   |                              |   |  |  |   |                                     |
| 9 3029818 013  | 4/24/19     | 1435 | G   | WT  | 2  | *       |   |                              |   |  |  | ALS Field Services: <input type="checkbox"/> Pickup <input type="checkbox"/> Labor<br><input type="checkbox"/> Composite_Sampling <input type="checkbox"/> Rental_Equipment<br><input type="checkbox"/> Other: |                                     |
| 10 3029818 014   | 4/24/19     | 1420 | G   | WT  | 2  | *       |   |                              |   |  |  |  |                                     |
| Project Comments:  |             |      | LOGGED BY (signature):  |   | #  | #       | Data Deliverables   |                              | Special Processing  |  | State Samples  |  |                                     |
|  |             |      | REVIEWED BY (signature):  |   | #  | #       | <input type="checkbox"/> Standard<br><input checked="" type="checkbox"/> CLP-like<br><input type="checkbox"/> USACE |                              | USACE <input type="checkbox"/><br>Navy <input type="checkbox"/> |  | Collected In<br><input type="checkbox"/> NY<br><input type="checkbox"/> NJ |  |                                     |
| Relinquished By / Company Name   | Date        | Time | Received By / Company Name  |   |    | Date    | Time  | Reportable to PADEP?         |   | Sample Disposal                                  |  | <input type="checkbox"/> PA  |                                     |
| 1 <i>[Signature]</i>   | 4-26-19     | 1500 | ALS   |   |    | 4/27/19 | 09:00   | Yes <input type="checkbox"/> |   | Lab <input checked="" type="checkbox"/>          |  | <input type="checkbox"/> NC  |                                     |
| 3  |             |      |   |   |    |         |   | PWSID #                      |   | Special <input type="checkbox"/>                 |  | <input checked="" type="checkbox"/> MD   |                                     |
| 5  |             |      |   |   |    |         |   | EDDS: Format Type-           |   | EQUIS EDD/BASIC EDD                              |  |  |                                     |

\* G=Grab; C=Composite \*\*Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OL=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

ALS ENVIRONMENTAL SHIPPING ADDRESS: 34 DOGWOOD LANE, MIDDLETOWN, PA 17057

Rev 8/04



# Cooler Receipt and Preservation Check Form

R1903686

5

ALG Environmental  
UR116: 3028615



Project/Client ALG-Middletown Folder Number R1903686

Cooler received on 4/27/19 by: ME

COURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |  |              |
|---|--|--------------|
| 1 | Were Custody seals on outside of cooler?             | Y <u>(N)</u> |
| 2 | Custody papers properly completed (ink, signed)?     | <u>(Y)</u> N |
| 3 | Did all bottles arrive in good condition (unbroken)? | Y N          |
| 4 | Circle: <u>Wet Ice</u> Dry Ice Gel packs present?    | <u>(Y)</u> N |

|    |   |                       |
|----|---|-----------------------|
| 5a | Perchlorate samples have required headspace?      | Y N <u>NA</u>         |
| 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y N <u>NA</u>         |
| 6  | Where did the bottles originate?                  | ALS/ROC <u>CLIENT</u> |
| 7  | Soil VOA received as: Bulk Encore 5035set         | <u>NA</u>             |

8. Temperature Readings Date: 4/27/19 Time: 09:25 ID: IR#7 IR#10 From: Temp Blank Sample Bottle

|                               |                      |              |              |              |              |              |     |
|-------------------------------|----------------------|--------------|--------------|--------------|--------------|--------------|-----|
| Observed Temp (°C)            | <u>3.6</u>           | <u>4.3</u>   | <u>2.6</u>   | <u>3.2</u>   | <u>3.5</u>   | <u>2.1</u>   |     |
| Correction Factor (°C)        | <u>-0.2</u>          | <u>-0.2</u>  | <u>-0.2</u>  | <u>-0.2</u>  | <u>-0.2</u>  | <u>-0.2</u>  |     |
| Corrected Temp (°C)           | <u>3.4</u>           | <u>4.1</u>   | <u>2.4</u>   | <u>3.0</u>   | <u>3.3</u>   | <u>1.9</u>   |     |
| Temp from: Type of bottle     | <u>1 liter Amber</u> |              |              |              |              |              |     |
| Within 0-6°C?                 | <u>(Y)</u> N         | <u>(Y)</u> N | <u>(Y)</u> N | <u>(Y)</u> N | <u>(Y)</u> N | <u>(Y)</u> N | Y N |
| If <0°C, were samples frozen? | Y N                  | Y N          | Y N          | Y N          | Y N          | Y N          | Y N |

If out of Temperature, note packing/ice condition: \_\_\_\_\_ ice melted Poorly Packed (described below) Same Day Rule  
& Client Approval to Run Samples: \_\_\_\_\_ Standing Approval Client aware at drop-off Client notified by: \_\_\_\_\_

All samples held in storage location: R-012 by ME on 4/27/19 at \_\_\_\_\_  
5035 samples placed in storage location: \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_

Cooler Breakdown/Preservation Check\*\*: Date: 4/27/19 Time: 10:05 by: ME

- 9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- 10. Did all bottle labels and tags agree with custody papers? YES NO
- 11. Were correct containers used for the tests indicated? YES NO
- 12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
- 13. Air Samples: Cassettes / Tubes Intact with MS? Canisters Pressurized Tedlar® Bags Inflated N/A N/A

| pH                    | Lot of test paper | Reagent                                       | Preserved? |    | Lot Received   | Exp | Sample ID Adjusted | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|---|------------|----|--|-----|--------------------|------------|-----------|----------|
|                       |                   |   | Yes        | No |  |     |                    |            |           |          |
| ≥12                   |                   | NaOH  |            |    |  |     |                    |            |           |          |
| ≤2                    |                   | HNO <sub>3</sub>                              |            |    |  |     |                    |            |           |          |
| ≤2                    |                   | H <sub>2</sub> SO <sub>4</sub>                |            |    |  |     |                    |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |            |    |  |     |                    |            |           |          |
| 5-9                   |                   | For 608pest                                   |            |    | No=Notify for 3day   |     |                    |            |           |          |
| Residual Chlorine (-) |                   | For CN, Phenol, 625, 608pest, 522             |            |    | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (625, 608, CN), ascorbic (phenol). |     |                    |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |            |    |  |     |                    |            |           |          |
|                       |                   | ZnAcetate                                     | -          | -  |  |     |                    |            |           |          |
|                       |                   | HCl   | **         | ** |  |     |                    |            |           |          |

\*\*VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: Client bottles  
Explain all Discrepancies/ Other Comments:

|       |        |
|-------|--------|
| CLRES | BULK   |
| DO    | FLDT   |
| HPROD | HGFB   |
| HTR   | LL3541 |
| PH    | SUB    |
| SO3   | MARRS  |
| ALS   | REV    |

Labels secondary reviewed by: ME  
PC Secondary Review: ME 4/29/19 \*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter





## Miscellaneous Forms

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





## REPORT QUALIFIERS AND DEFINITIONS

|  |   |
|--|---|
| <p><b>U</b> Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.</p> <p><b>J</b> Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration &gt;40% difference between two GC columns (pesticides/Aroclors).</p> <p><b>B</b> Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.</p> <p><b>E</b> Inorganics- Concentration is estimated due to the serial dilution was outside control limits.</p> <p><b>E</b> Organics- Concentration has exceeded the calibration range for that specific analysis.</p> <p><b>D</b> Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.</p> <p><b>*</b> Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.</p> <p><b>H</b> Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.</p> <p><b>#</b> Spike was diluted out</p> | <p><b>+</b> Correlation coefficient for MSA is &lt;0.995.</p> <p><b>N</b> Inorganics- Matrix spike recovery was outside laboratory limits.</p> <p><b>N</b> Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.</p> <p><b>S</b> Concentration has been determined using Method of Standard Additions (MSA).</p> <p><b>W</b> Post-Digestion Spike recovery is outside control limits and the sample absorbance is &lt;50% of the spike absorbance.</p> <p><b>P</b> Concentration &gt;40% difference between the two GC columns.</p> <p><b>C</b> Confirmed by GC/MS</p> <p><b>Q</b> DoD reports: indicates a pesticide/Aroclor is not confirmed (<math>\geq 100\%</math> Difference between two GC columns).</p> <p><b>X</b> See Case Narrative for discussion.</p> <p><b>MRL</b> Method Reporting Limit. Also known as:</p> <p><b>LOQ</b> Limit of Quantitation (LOQ)<br/>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.</p> <p><b>MDL</b> Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).</p> <p><b>LOD</b> Limit of Detection. A value at or above the MDL which has been verified to be detectable.</p> <p><b>ND</b> Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier</p> |
|--|---|



### Rochester Lab ID # for State Certifications<sup>1</sup>

|                         |                         |                         |
|-------------------------|-------------------------|-------------------------|
| Connecticut ID # PH0556 | Maine ID #NY0032        | Pennsylvania ID# 68-786 |
| Delaware Approved       | New Hampshire ID # 2941 | Rhode Island ID # 158   |
| DoD ELAP #65817         | New York ID # 10145     | Virginia #460167        |
| Florida ID # E87674     | North Carolina #676     |                         |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/us/new-york/rochester-environmental>



# ALS Laboratory Group

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## Acronyms

|            |  |
|------------|--|
| ASTM       | American Society for Testing and Materials   |
| ACLA       | American Association for Laboratory Accreditation  |
| CARB       | California Air Resources Board   |
| CAS Number | Chemical Abstract Service registry Number  |
| CFC        | Chlorofluorocarbon   |
| CFU        | Colony-Forming Unit  |
| DEC        | Department of Environmental Conservation   |
| DEQ        | Department of Environmental Quality  |
| DHS        | Department of Health Services  |
| DOE        | Department of Ecology  |
| DOH        | Department of Health   |
| EPA        | U.S. Environmental Protection Agency   |
| ELAP       | Environmental Laboratory Accreditation Program   |
| GC         | Gas Chromatography   |
| GC/MS      | Gas Chromatography/Mass Spectrometry   |
| LUFT       | Leaking Underground Fuel Tank  |
| M          | Modified   |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit   |
| MPN        | Most Probable Number   |
| MRL        | Method Reporting Limit   |
| NA         | Not Applicable   |
| NC         | Not Calculated   |
| NCAI       | National Council of the Paper Industry for Air and Stream Improvement  |
| ND         | Not Detected   |
| NIOSH      | National Institute for Occupational Safety and Health  |
| PQL        | Practical Quantitation Limit   |
| RCRA       | Resource Conservation and Recovery Act   |
| SIM        | Selected Ion Monitoring  |
| TPH        | Total Petroleum Hydrocarbons   |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

Analyst Summary report

**Client:** ALS Environmental - US  
**Project:** UR115-3029818/

**Service Request:** R1903686

**Sample Name:** 3029818 003  
**Lab Code:** R1903686-001  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 004  
**Lab Code:** R1903686-002  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 005  
**Lab Code:** R1903686-003  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 007  
**Lab Code:** R1903686-004  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 008  
**Lab Code:** R1903686-005  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

Analyst Summary report

**Client:** ALS Environmental - US  
**Project:** UR115-3029818/

**Service Request:** R1903686

**Sample Name:** 3029818 009  
**Lab Code:** R1903686-006  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 010  
**Lab Code:** R1903686-007  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 012  
**Lab Code:** R1903686-008  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 013  
**Lab Code:** R1903686-009  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ

**Sample Name:** 3029818 014  
**Lab Code:** R1903686-010  
**Sample Matrix:** Water

**Date Collected:** 04/24/19  
**Date Received:** 04/27/19

**Analysis Method**  
680

**Extracted/Digested By**  
JMISIUREWICZ

**Analyzed By**  
JMISIUREWICZ



## INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

### Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9014 Cyanide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Reactivity       | SW846 Ch7, 7.3.4.2 |
| 9034 Sulfide Acid Soluble     | 9030B              |
| 9056A Bomb (Halogens)         | 5050A              |
| 9066 Manual Distillation      | 9065               |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

### Solid/Soil/Non-Aqueous Matrix

| Analytical Method  | Preparation Method |
|--|--------------------|
| 6010C  | 3050B              |
| 6020A  | 3050B              |
| 6010C TCLP (1311) extract  | 3005A/3010A        |
| 6010 SPLP (1312) extract   | 3005A/3010A        |
| 7196A  | 3060A              |
| 7199   | 3060A              |
| 9056A Halogens/Halides   | 5050               |
| 300.0 Anions/ 350.1 / 353.2 / SM 2320B / SM 5210B / 9056A Anions | DI extraction      |

For analytical methods not listed, the preparation method is the same as the analytical method reference.



## Sample Results

**ALS Environmental Rochester Laboratory**  
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## Semivolatile Organic Compounds by GC/MS

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Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)

ALS Environmental | www.alsglobal.com





Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 003  
**Lab Code:** R1903686-001

**Service Request:** R1903686  
**Date Collected:** 04/24/19 11:20  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0043 J</b> | 0.0054 | 0.0025 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0081 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0053 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 04/29/19 20:26 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 04/29/19 20:26 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 70    | 46 - 130       | 04/29/19 20:26 |   |
| 4,4'-DDT            | 56    | 30 - 194       | 04/29/19 20:26 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818-004  
**Lab Code:** R1903686-002

**Service Request:** R1903686  
**Date Collected:** 04/24/19 11:45  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.025  | 0.011  | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0035 J</b> | 0.0050 | 0.0023 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.015  | 0.0041 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.010  | 0.0027 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0050 | 0.0027 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.020  | 0.0074 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.015  | 0.0048 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.010  | 0.0016 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.010  | 0.0030 | 1    | 04/29/19 21:24 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0050 | 0.0011 | 1    | 04/29/19 21:24 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 50    | 46 - 130       | 04/29/19 21:24 |   |
| 4,4'-DDT            | 46    | 30 - 194       | 04/29/19 21:24 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 005  
**Lab Code:** R1903686-003

**Service Request:** R1903686  
**Date Collected:** 04/24/19 12:00  
**Date Received:** 04/30/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 680  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.027  | 0.012  | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0070</b> | 0.0054 | 0.0025 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0045 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0030 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0054 | 0.0030 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.022  | 0.0080 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0052 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0018 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0033 | 1    | 04/29/19 22:22 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0054 | 0.0012 | 1    | 04/29/19 22:22 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 71    | 46 - 130       | 04/29/19 22:22 |   |
| 4,4'-DDT            | 39    | 30 - 194       | 04/29/19 22:22 |   |

ALS Group USA, Corp.  
 dba ALS Environmental

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 007  
**Lab Code:** R1903686-004

**Service Request:** R1903686  
**Date Collected:** 04/24/19 14:00  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0054 J</b> | 0.0054 | 0.0025 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0080 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0052 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 04/29/19 23:19 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 04/29/19 23:19 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 50    | 46 - 130       | 04/29/19 23:19 |   |
| 4,4'-DDT            | 36    | 30 - 194       | 04/29/19 23:19 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818-008  
**Lab Code:** R1903686-005

**Service Request:** R1903686  
**Date Collected:** 04/24/19 13:00  
**Date Received:** 04/30/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.027  | 0.012  | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0082</b> | 0.0054 | 0.0025 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0045 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0030 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0054 | 0.0030 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.022  | 0.0081 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0053 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0018 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0033 | 1    | 04/30/19 00:16 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0054 | 0.0012 | 1    | 04/30/19 00:16 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 77    | 46 - 130       | 04/30/19 00:16 |   |
| 4,4'-DDT            | 31    | 30 - 194       | 04/30/19 00:16 |   |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 009  
**Lab Code:** R1903686-006

**Service Request:** R1903686  
**Date Collected:** 04/24/19 13:20  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.026  | 0.012  | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0052</b> | 0.0052 | 0.0024 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0043 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.010  | 0.0029 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0052 | 0.0029 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.021  | 0.0078 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0050 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.010  | 0.0017 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.010  | 0.0032 | 1    | 04/30/19 01:13 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0052 | 0.0012 | 1    | 04/30/19 01:13 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 58    | 46 - 130       | 04/30/19 01:13 |   |
| 4,4'-DDT            | 27 *  | 30 - 194       | 04/30/19 01:13 | * |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 010  
**Lab Code:** R1903686-007

**Service Request:** R1903686  
**Date Collected:** 04/24/19 13:35  
**Date Received:** 04/30/19 10:00

**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.027  | 0.012  | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0054 J</b> | 0.0054 | 0.0025 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.016  | 0.0045 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.011  | 0.0030 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0054 | 0.0030 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.022  | 0.0080 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.016  | 0.0052 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.011  | 0.0018 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.011  | 0.0033 | 1    | 04/30/19 02:10 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0054 | 0.0012 | 1    | 04/30/19 02:10 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 70    | 46 - 130       | 04/30/19 02:10 |   |
| 4,4'-DDT            | 39 *  | 30 - 194       | 04/30/19 02:10 | * |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 012  
**Lab Code:** R1903686-008

**Service Request:** R1903686  
**Date Collected:** 04/24/19 12:45  
**Date Received:** 04/27/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result          | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|-----------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U            | 0.025  | 0.011  | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0030 J</b> | 0.0050 | 0.0023 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U            | 0.015  | 0.0041 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U            | 0.010  | 0.0027 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U            | 0.0050 | 0.0027 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U            | 0.020  | 0.0074 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U            | 0.015  | 0.0048 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U            | 0.010  | 0.0016 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U            | 0.010  | 0.0030 | 1    | 04/30/19 03:07 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U            | 0.0050 | 0.0011 | 1    | 04/30/19 03:07 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 59    | 46 - 130       | 04/30/19 03:07 |   |
| 4,4'-DDT            | 36 *  | 30 - 194       | 04/30/19 03:07 | * |



Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818 013  
**Lab Code:** R1903686-009

**Service Request:** R1903686  
**Date Collected:** 04/24/19 14:35  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.027  | 0.012  | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0076</b> | 0.0054 | 0.0025 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0045 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0030 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0054 | 0.0030 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.022  | 0.0081 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0053 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0018 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0033 | 1    | 04/30/19 04:04 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0054 | 0.0012 | 1    | 04/30/19 04:04 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 71    | 46 - 130       | 04/30/19 04:04 |   |
| 4,4'-DDT            | 33 *  | 30 - 194       | 04/30/19 04:04 | * |

ALS Group USA, Corp.  
 dba ALS Environmental

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** 3029818-014  
**Lab Code:** R1903686-010

**Service Request:** R1903686  
**Date Collected:** 04/24/19 14:20  
**Date Received:** 04/30/19 10:00  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result        | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|---------------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U          | 0.027  | 0.012  | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | <b>0.0059</b> | 0.0054 | 0.0025 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U          | 0.016  | 0.0045 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U          | 0.011  | 0.0030 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U          | 0.0054 | 0.0030 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U          | 0.022  | 0.0080 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U          | 0.016  | 0.0052 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U          | 0.011  | 0.0018 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U          | 0.011  | 0.0033 | 1    | 04/30/19 05:01 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U          | 0.0054 | 0.0012 | 1    | 04/30/19 05:01 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 57    | 46 - 130       | 04/30/19 05:01 |   |
| 4,4'-DDT            | 16 *  | 30 - 194       | 04/30/19 05:01 | * |



## QC Summary Forms

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)





## Semivolatile Organic Compounds by GC/MS

**ALS Environmental Rochester Laboratory**  
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623  
Phone (585) 288-5380 Fax (585) 288-8475  
[www.alsglobal.com](http://www.alsglobal.com)

ALS Environmental | www.alsglobal.com



**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water

**Service Request:** R1903686

**SURROGATE RECOVERY SUMMARY**

**PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry**

**Analysis Method:** 680  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | gamma-BHC (Lindane) | 4,4'-DDT |
|------------------------------|--------------|---------------------|----------|
|                              |              | 46-130              | 30-194   |
| 3029818 003                  | R1903686-001 | 70                  | 56       |
| 3029818 004                  | R1903686-002 | 60                  | 46       |
| 3029818 005                  | R1903686-003 | 71                  | 39       |
| 3029818 007                  | R1903686-004 | 60                  | 36       |
| 3029818 008                  | R1903686-005 | 77                  | 31       |
| 3029818 009                  | R1903686-006 | 68                  | 27*      |
| 3029818 010                  | R1903686-007 | 70                  | 29*      |
| 3029818 012                  | R1903686-008 | 69                  | 26*      |
| 3029818 013                  | R1903686-009 | 71                  | 23*      |
| 3029818 014                  | R1903686-010 | 57                  | 16*      |
| Method Blank                 | RQ1903855-01 | 73                  | 96       |
| Lab Control Sample           | RQ1903855-02 | 66                  | 79       |
| Duplicate Lab Control Sample | RQ1903855-03 | 70                  | 97       |

Analytical Report

**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water  
**Sample Name:** Method Blank  
**Lab Code:** RQ1903855-01

**Service Request:** R1903686  
**Date Collected:** NA  
**Date Received:** NA  
**Units:** ug/L  
**Basis:** NA

PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry

**Analysis Method:** 630  
**Prep Method:** EPA 3510C

| Analyte Name                | Result | MRL    | MDL    | Dil. | Date Analyzed  | Date Extracted | Q |
|-----------------------------|--------|--------|--------|------|----------------|----------------|---|
| Decachlorobiphenyl          | ND U   | 0.025  | 0.011  | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Dichlorobiphenyls, Total    | ND U   | 0.0050 | 0.0023 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Heptachlorobiphenyls, Total | ND U   | 0.015  | 0.0041 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Hexachlorobiphenyls, Total  | ND U   | 0.010  | 0.0027 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Monochlorobiphenyls, Total  | ND U   | 0.0050 | 0.0027 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Nona chlorobiphenyls, Total | ND U   | 0.020  | 0.0074 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Octachlorobiphenyls, Total  | ND U   | 0.015  | 0.0048 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Pentachlorobiphenyls, Total | ND U   | 0.010  | 0.0016 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Tetrachlorobiphenyls, Total | ND U   | 0.010  | 0.0030 | 1    | 04/29/19 16:14 | 4/28/19        |   |
| Trichlorobiphenyls, Total   | ND U   | 0.0050 | 0.0011 | 1    | 04/29/19 16:14 | 4/28/19        |   |

| Surrogate Name      | % Rec | Control Limits | Date Analyzed  | Q |
|---------------------|-------|----------------|----------------|---|
| gamma-BHC (Lindane) | 73    | 46 - 130       | 04/29/19 16:14 |   |
| 4,4'-DDT            | 96    | 30 - 194       | 04/29/19 16:14 |   |



**Client:** ALS Environmental - US  
**Project:** UR115: 3029818  
**Sample Matrix:** Water

**Service Request:** R1903686  
**Date Analyzed:** 04/29/19

**Duplicate Lab Control Sample Summary**  
**PCB Homologs in Water and Soil/Sediment by Gas Chromatography/Mass Spectrometry**

Units:ug/L  
 Basis:NA

| Analyte Name                | Analytical Method | Result | Lab Control Sample |       | Duplicate Lab Control Sample |              | % Rec Limits | RPD | RPD Limit |
|-----------------------------|-------------------|--------|--------------------|-------|------------------------------|--------------|--------------|-----|-----------|
|                             |                   |        | Spike Amount       | % Rec | Result                       | Spike Amount |              |     |           |
| Decachlorobiphenyl          | 680               | 0.632  | 1.25               | 51    | 0.738                        | 1.25         | 10-112       | 16  | 30        |
| Dichlorobiphenyls, Total    | 680               | 0.119  | 0.250              | 48    | 0.117                        | 0.250        | 31-119       | 2   | 30        |
| Heptachlorobiphenyls, Total | 680               | 0.358  | 0.750              | 48    | 0.423                        | 0.750        | 17-118       | 17  | 30        |
| Hexachlorobiphenyls, Total  | 680               | 0.230  | 0.500              | 46    | 0.285                        | 0.500        | 34-119       | 21  | 30        |
| Monochlorobiphenyls, Total  | 680               | 0.111  | 0.250              | 44    | 0.112                        | 0.250        | 28-111       | <1  | 30        |
| Octachlorobiphenyls, Total  | 680               | 0.382  | 0.750              | 51    | 0.427                        | 0.750        | 11-115       | 11  | 30        |
| Pentachlorobiphenyls, Total | 680               | 0.237  | 0.500              | 47    | 0.288                        | 0.500        | 33-120       | 19  | 30        |
| Tetrachlorobiphenyls, Total | 680               | 0.218  | 0.500              | 44    | 0.219                        | 0.500        | 26-122       | <1  | 30        |
| Trichlorobiphenyls, Total   | 680               | 0.116  | 0.250              | 46    | 0.117                        | 0.250        | 30-121       | <1  | 30        |



## ANALYTICAL REPORT

|                 |  |
|-----------------|--|
| Lab Number:     | L1917478   |
| Client:         | AECOM<br>8000 Virginia Manor Road<br>Suite 110<br>Beltsville, MD 20705 |
| ATTN:           | Ravi Damera  |
| Phone:          | (301) 289-3809   |
| Project Name:   | LMC MRC/95840ACM   |
| Project Number: | Not Specified  |
| Report Date:    | 05/10/19   |

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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Eight Walkup Drive, Westborough, MA 01581-1019  
508-898-9220 (Fax) 508-898-9193 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Alpha Sample ID | Client ID            | Matrix | Sample Location | Collection Date/Time | Receive Date |
|-----------------|----------------------|--------|-----------------|----------------------|--------------|
| L1917478-01     | MRC-SW7A-S-042419-AA | WATER  | BALTIMORE, MD   | 04/25/19 09:45       | 04/27/19     |
| L1917478-02     | TB-042519-ALPHA      | WATER  | BALTIMORE, MD   | 04/25/19 00:00       | 04/27/19     |



**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

**HOLD POLICY** - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

---

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

### Case Narrative (continued)

#### Report Submission

May 10, 2019: This final report includes the results of all requested analyses.

May 03, 2019: This is a preliminary report.

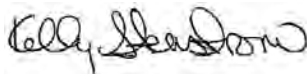
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

#### Volatile Organics

L1917478-02: The Trip Blank has a result for acetone present above the reporting limit. The sample vial was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 05/10/19

# ORGANICS

# VOLATILES

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**SAMPLE RESULTS**

Lab ID: L1917478-01  
 Client ID: MRC-SW7A-S-042419-AA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 05/02/19 12:58  
 Analyst: BD

| Parameter   | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|---|--------|-----------|-------|------|------|-----------------|
| <b>Volatile Organics by GC/MS - Westborough Lab</b> |        |           |       |      |      |                 |
| Methylene chloride                                  | ND     |           | ug/l  | 3.0  | 0.68 | 1               |
| 1,1-Dichloroethane                                  | ND     |           | ug/l  | 0.75 | 0.21 | 1               |
| Chloroform  | ND     |           | ug/l  | 0.75 | 0.22 | 1               |
| Carbon tetrachloride                                | ND     |           | ug/l  | 0.50 | 0.13 | 1               |
| 1,2-Dichloropropane                                 | ND     |           | ug/l  | 1.8  | 0.14 | 1               |
| Dibromochloromethane                                | ND     |           | ug/l  | 0.50 | 0.15 | 1               |
| 1,1,2-Trichloroethane                               | ND     |           | ug/l  | 0.75 | 0.14 | 1               |
| Tetrachloroethene                                   | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| Chlorobenzene                                       | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| Trichlorofluoromethane                              | ND     |           | ug/l  | 2.5  | 0.16 | 1               |
| 1,2-Dichloroethane                                  | ND     |           | ug/l  | 0.50 | 0.13 | 1               |
| 1,1,1-Trichloroethane                               | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Bromodichloromethane                                | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| trans-1,3-Dichloropropene                           | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| cis-1,3-Dichloropropene                             | ND     |           | ug/l  | 0.50 | 0.14 | 1               |
| 1,3-Dichloropropene, Total                          | ND     |           | ug/l  | 0.50 | 0.14 | 1               |
| 1,1-Dichloropropene                                 | ND     |           | ug/l  | 2.5  | 0.24 | 1               |
| Bromoform   | ND     |           | ug/l  | 2.0  | 0.25 | 1               |
| 1,1,1,2,2-Tetrachloroethane                         | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| Benzene   | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene   | ND     |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene  | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| Chloromethane                                       | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| Bromomethane  | ND     |           | ug/l  | 1.0  | 0.26 | 1               |
| Vinyl chloride                                      | ND     |           | ug/l  | 1.0  | 0.07 | 1               |
| Chloroethane  | ND     |           | ug/l  | 1.0  | 0.13 | 1               |
| 1,1-Dichloroethene                                  | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| trans-1,2-Dichloroethene                            | ND     |           | ug/l  | 0.75 | 0.16 | 1               |



Project Name: LMC MRC/95840ACM

Lab Number: L1917478

Project Number: Not Specified

Report Date: 05/10/19

## SAMPLE RESULTS

Lab ID: L1917478-01  
 Client ID: MRC-SW7A-S-042419-AA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|--|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| 1,2-Dichloroethene, Total                    | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Trichloroethene                              | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| 1,2-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | 0.18 | 1               |
| 1,3-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| 1,4-Dichlorobenzene                          | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| Methyl tert butyl ether                      | ND     |           | ug/l  | 1.0  | 0.17 | 1               |
| p/m-Xylene                                   | ND     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene                                     | ND     |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                               | ND     |           | ug/l  | 1.0  | 0.33 | 1               |
| cis-1,2-Dichloroethene                       | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| Dibromomethane                               | ND     |           | ug/l  | 5.0  | 0.36 | 1               |
| 1,4-Dichlorobutane                           | ND     |           | ug/l  | 5.0  | 0.46 | 1               |
| 1,2,3-Trichloropropane                       | ND     |           | ug/l  | 5.0  | 0.18 | 1               |
| Styrene                                      | ND     |           | ug/l  | 1.0  | 0.36 | 1               |
| Dichlorodifluoromethane                      | ND     |           | ug/l  | 5.0  | 0.24 | 1               |
| Acetone                                      | 3.3    | J         | ug/l  | 5.0  | 1.5  | 1               |
| Carbon disulfide                             | ND     |           | ug/l  | 5.0  | 0.30 | 1               |
| 2-Butanone                                   | ND     |           | ug/l  | 5.0  | 1.9  | 1               |
| Vinyl acetate                                | ND     |           | ug/l  | 5.0  | 0.31 | 1               |
| 4-Methyl-2-pentanone                         | ND     |           | ug/l  | 5.0  | 0.42 | 1               |
| 2-Hexanone                                   | ND     |           | ug/l  | 5.0  | 0.52 | 1               |
| Ethyl methacrylate                           | ND     |           | ug/l  | 5.0  | 0.61 | 1               |
| Acrylonitrile                                | ND     |           | ug/l  | 5.0  | 0.43 | 1               |
| Bromochloromethane                           | ND     |           | ug/l  | 2.5  | 0.15 | 1               |
| Tetrahydrofuran                              | ND     |           | ug/l  | 5.0  | 0.52 | 1               |
| 2,2-Dichloropropane                          | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| 1,2-Dibromoethane                            | ND     |           | ug/l  | 2.0  | 0.19 | 1               |
| 1,3-Dichloropropane                          | ND     |           | ug/l  | 2.5  | 0.21 | 1               |
| 1,1,1,2-Tetrachloroethane                    | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Bromobenzene                                 | ND     |           | ug/l  | 2.5  | 0.15 | 1               |
| n-Butylbenzene                               | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| sec-Butylbenzene                             | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| tert-Butylbenzene                            | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| o-Chlorotoluene                              | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| p-Chlorotoluene                              | ND     |           | ug/l  | 2.5  | 0.18 | 1               |
| 1,2-Dibromo-3-chloropropane                  | ND     |           | ug/l  | 2.5  | 0.35 | 1               |
| Hexachlorobutadiene                          | ND     |           | ug/l  | 0.50 | 0.22 | 1               |

Project Name: LMC MRC/95840ACM

Lab Number: L1917478

Project Number: Not Specified

Report Date: 05/10/19

## SAMPLE RESULTS

Lab ID: L1917478-01  
 Client ID: MRC-SW7A-S-042419-AA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

| Parameter                                    | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|--|--------|-----------|-------|------|------|-----------------|
| Volatile Organics by GC/MS - Westborough Lab |        |           |       |      |      |                 |
| Isopropylbenzene                             | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| p-Isopropyltoluene                           | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| Naphthalene                                  | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| n-Propylbenzene                              | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| 1,2,3-Trichlorobenzene                       | ND     |           | ug/l  | 2.5  | 0.23 | 1               |
| 1,2,4-Trichlorobenzene                       | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| 1,3,5-Trimethylbenzene                       | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| 1,2,4-Trimethylbenzene                       | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| trans-1,4-Dichloro-2-butene                  | ND     |           | ug/l  | 2.5  | 0.21 | 1               |
| Ethyl ether                                  | ND     |           | ug/l  | 2.5  | 0.16 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 102        |           | 70-130              |
| Toluene-d8            | 97         |           | 70-130              |
| 4-Bromofluorobenzene  | 104        |           | 70-130              |
| Dibromofluoromethane  | 99         |           | 70-130              |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**SAMPLE RESULTS**

Lab ID: L1917478-02  
 Client ID: TB-042519-ALPHA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 00:00  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 1,8260C  
 Analytical Date: 05/02/19 13:26  
 Analyst: BD

| Parameter   | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|---|--------|-----------|-------|------|------|-----------------|
| <b>Volatile Organics by GC/MS - Westborough Lab</b> |        |           |       |      |      |                 |
| Methylene chloride                                  | ND     |           | ug/l  | 3.0  | 0.68 | 1               |
| 1,1-Dichloroethane                                  | ND     |           | ug/l  | 0.75 | 0.21 | 1               |
| Chloroform  | ND     |           | ug/l  | 0.75 | 0.22 | 1               |
| Carbon tetrachloride                                | ND     |           | ug/l  | 0.50 | 0.13 | 1               |
| 1,2-Dichloropropane                                 | ND     |           | ug/l  | 1.8  | 0.14 | 1               |
| Dibromochloromethane                                | ND     |           | ug/l  | 0.50 | 0.15 | 1               |
| 1,1,2-Trichloroethane                               | ND     |           | ug/l  | 0.75 | 0.14 | 1               |
| Tetrachloroethene                                   | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| Chlorobenzene                                       | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| Trichlorofluoromethane                              | ND     |           | ug/l  | 2.5  | 0.16 | 1               |
| 1,2-Dichloroethane                                  | ND     |           | ug/l  | 0.50 | 0.13 | 1               |
| 1,1,1-Trichloroethane                               | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Bromodichloromethane                                | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| trans-1,3-Dichloropropene                           | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| cis-1,3-Dichloropropene                             | ND     |           | ug/l  | 0.50 | 0.14 | 1               |
| 1,3-Dichloropropene, Total                          | ND     |           | ug/l  | 0.50 | 0.14 | 1               |
| 1,1-Dichloropropene                                 | ND     |           | ug/l  | 2.5  | 0.24 | 1               |
| Bromoform   | ND     |           | ug/l  | 2.0  | 0.25 | 1               |
| 1,1,1,2-Tetrachloroethane                           | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| Benzene   | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Toluene   | ND     |           | ug/l  | 0.75 | 0.20 | 1               |
| Ethylbenzene  | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| Chloromethane                                       | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| Bromomethane  | ND     |           | ug/l  | 1.0  | 0.26 | 1               |
| Vinyl chloride                                      | ND     |           | ug/l  | 1.0  | 0.07 | 1               |
| Chloroethane  | ND     |           | ug/l  | 1.0  | 0.13 | 1               |
| 1,1-Dichloroethene                                  | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| trans-1,2-Dichloroethene                            | ND     |           | ug/l  | 0.75 | 0.16 | 1               |

Project Name: LMC MRC/95840ACM

Lab Number: L1917478

Project Number: Not Specified

Report Date: 05/10/19

## SAMPLE RESULTS

Lab ID: L1917478-02  
 Client ID: TB-042519-ALPHA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 00:00  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

| Parameter   | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|---|--------|-----------|-------|------|------|-----------------|
| <b>Volatile Organics by GC/MS - Westborough Lab</b> |        |           |       |      |      |                 |
| 1,2-Dichloroethene, Total                           | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Trichloroethene                                     | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| 1,2-Dichlorobenzene                                 | ND     |           | ug/l  | 2.5  | 0.18 | 1               |
| 1,3-Dichlorobenzene                                 | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| 1,4-Dichlorobenzene                                 | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| Methyl tert butyl ether                             | ND     |           | ug/l  | 1.0  | 0.17 | 1               |
| p/m-Xylene  | ND     |           | ug/l  | 1.0  | 0.33 | 1               |
| o-Xylene  | ND     |           | ug/l  | 1.0  | 0.39 | 1               |
| Xylenes, Total                                      | ND     |           | ug/l  | 1.0  | 0.33 | 1               |
| cis-1,2-Dichloroethene                              | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| Dibromomethane                                      | ND     |           | ug/l  | 5.0  | 0.36 | 1               |
| 1,4-Dichlorobutane                                  | ND     |           | ug/l  | 5.0  | 0.46 | 1               |
| 1,2,3-Trichloropropane                              | ND     |           | ug/l  | 5.0  | 0.18 | 1               |
| Styrene   | ND     |           | ug/l  | 1.0  | 0.36 | 1               |
| Dichlorodifluoromethane                             | ND     |           | ug/l  | 5.0  | 0.24 | 1               |
| Acetone   | 5.4    |           | ug/l  | 5.0  | 1.5  | 1               |
| Carbon disulfide                                    | ND     |           | ug/l  | 5.0  | 0.30 | 1               |
| 2-Butanone  | ND     |           | ug/l  | 5.0  | 1.9  | 1               |
| Vinyl acetate                                       | ND     |           | ug/l  | 5.0  | 0.31 | 1               |
| 4-Methyl-2-pentanone                                | ND     |           | ug/l  | 5.0  | 0.42 | 1               |
| 2-Hexanone  | ND     |           | ug/l  | 5.0  | 0.52 | 1               |
| Ethyl methacrylate                                  | ND     |           | ug/l  | 5.0  | 0.61 | 1               |
| Acrylonitrile                                       | ND     |           | ug/l  | 5.0  | 0.43 | 1               |
| Bromochloromethane                                  | ND     |           | ug/l  | 2.5  | 0.15 | 1               |
| Tetrahydrofuran                                     | ND     |           | ug/l  | 5.0  | 0.52 | 1               |
| 2,2-Dichloropropane                                 | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| 1,2-Dibromoethane                                   | ND     |           | ug/l  | 2.0  | 0.19 | 1               |
| 1,3-Dichloropropane                                 | ND     |           | ug/l  | 2.5  | 0.21 | 1               |
| 1,1,1,2-Tetrachloroethane                           | ND     |           | ug/l  | 0.50 | 0.16 | 1               |
| Bromobenzene  | ND     |           | ug/l  | 2.5  | 0.15 | 1               |
| n-Butylbenzene                                      | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| sec-Butylbenzene                                    | ND     |           | ug/l  | 0.50 | 0.18 | 1               |
| tert-Butylbenzene                                   | ND     |           | ug/l  | 2.5  | 0.20 | 1               |
| o-Chlorotoluene                                     | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| p-Chlorotoluene                                     | ND     |           | ug/l  | 2.5  | 0.18 | 1               |
| 1,2-Dibromo-3-chloropropane                         | ND     |           | ug/l  | 2.5  | 0.35 | 1               |
| Hexachlorobutadiene                                 | ND     |           | ug/l  | 0.50 | 0.22 | 1               |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**SAMPLE RESULTS**

**Lab ID:** L1917478-02  
**Client ID:** TB-042519-ALPHA  
**Sample Location:** BALTIMORE, MD

**Date Collected:** 04/25/19 00:00  
**Date Received:** 04/27/19  
**Field Prep:** Not Specified

Sample Depth:

| Parameter   | Result | Qualifier | Units | RL   | MDL  | Dilution Factor |
|---|--------|-----------|-------|------|------|-----------------|
| <b>Volatile Organics by GC/MS - Westborough Lab</b> |        |           |       |      |      |                 |
| Isopropylbenzene                                    | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| p-Isopropyltoluene                                  | ND     |           | ug/l  | 0.50 | 0.19 | 1               |
| Naphthalene   | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| n-Propylbenzene                                     | ND     |           | ug/l  | 0.50 | 0.17 | 1               |
| 1,2,3-Trichlorobenzene                              | ND     |           | ug/l  | 2.5  | 0.23 | 1               |
| 1,2,4-Trichlorobenzene                              | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| 1,3,5-Trimethylbenzene                              | ND     |           | ug/l  | 2.5  | 0.22 | 1               |
| 1,2,4-Trimethylbenzene                              | ND     |           | ug/l  | 2.5  | 0.19 | 1               |
| trans-1,4-Dichloro-2-butene                         | ND     |           | ug/l  | 2.5  | 0.21 | 1               |
| Ethyl ether   | ND     |           | ug/l  | 2.5  | 0.16 | 1               |

| Surrogate             | % Recovery | Qualifier | Acceptance Criteria |
|-----------------------|------------|-----------|---------------------|
| 1,2-Dichloroethane-d4 | 101        |           | 70-130              |
| Toluene-d8            | 99         |           | 70-130              |
| 4-Bromofluorobenzene  | 105        |           | 70-130              |
| Dibromofluoromethane  | 100        |           | 70-130              |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 05/02/19 08:43  
Analyst: PD

| Parameter  | Result | Qualifier | Units | RL   | MDL  |
|--|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5 |        |           |       |      |      |
| Methylene chloride   | ND     |           | ug/l  | 3.0  | 0.68 |
| 1,1-Dichloroethane   | ND     |           | ug/l  | 0.75 | 0.21 |
| Chloroform   | ND     |           | ug/l  | 0.75 | 0.22 |
| Carbon tetrachloride   | ND     |           | ug/l  | 0.50 | 0.13 |
| 1,2-Dichloropropane  | ND     |           | ug/l  | 1.8  | 0.14 |
| Dibromochloromethane   | ND     |           | ug/l  | 0.50 | 0.15 |
| 1,1,2-Trichloroethane  | ND     |           | ug/l  | 0.75 | 0.14 |
| 2-Chloroethylvinyl ether   | ND     |           | ug/l  | 10   | 0.40 |
| Tetrachloroethene  | ND     |           | ug/l  | 0.50 | 0.18 |
| Chlorobenzene  | ND     |           | ug/l  | 0.50 | 0.18 |
| Trichlorofluoromethane   | ND     |           | ug/l  | 2.5  | 0.16 |
| 1,2-Dichloroethane   | ND     |           | ug/l  | 0.50 | 0.13 |
| 1,1,1-Trichloroethane  | ND     |           | ug/l  | 0.50 | 0.16 |
| Bromodichloromethane   | ND     |           | ug/l  | 0.50 | 0.19 |
| trans-1,3-Dichloropropene  | ND     |           | ug/l  | 0.50 | 0.16 |
| cis-1,3-Dichloropropene  | ND     |           | ug/l  | 0.50 | 0.14 |
| 1,3-Dichloropropene, Total   | ND     |           | ug/l  | 0.50 | 0.14 |
| 1,1-Dichloropropene  | ND     |           | ug/l  | 2.5  | 0.24 |
| Bromoform  | ND     |           | ug/l  | 2.0  | 0.25 |
| 1,1,2,2-Tetrachloroethane  | ND     |           | ug/l  | 0.50 | 0.17 |
| Benzene  | ND     |           | ug/l  | 0.50 | 0.16 |
| Toluene  | ND     |           | ug/l  | 0.75 | 0.20 |
| Ethylbenzene   | ND     |           | ug/l  | 0.50 | 0.17 |
| Chloromethane  | ND     |           | ug/l  | 2.5  | 0.20 |
| Bromomethane   | ND     |           | ug/l  | 1.0  | 0.26 |
| Vinyl chloride   | ND     |           | ug/l  | 1.0  | 0.07 |
| Chloroethane   | ND     |           | ug/l  | 1.0  | 0.13 |
| 1,1-Dichloroethene   | ND     |           | ug/l  | 0.50 | 0.17 |
| trans-1,2-Dichloroethene   | ND     |           | ug/l  | 0.75 | 0.16 |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 05/02/19 08:43  
Analyst: PD

| Parameter  | Result | Qualifier | Units | RL   | MDL  |
|--|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5 |        |           |       |      |      |
| 1,2-Dichloroethene, Total  | ND     |           | ug/l  | 0.50 | 0.16 |
| Trichloroethene  | ND     |           | ug/l  | 0.50 | 0.18 |
| 1,2-Dichlorobenzene  | ND     |           | ug/l  | 2.5  | 0.18 |
| 1,3-Dichlorobenzene  | ND     |           | ug/l  | 2.5  | 0.19 |
| 1,4-Dichlorobenzene  | ND     |           | ug/l  | 2.5  | 0.19 |
| Methyl tert butyl ether  | ND     |           | ug/l  | 1.0  | 0.17 |
| p/m-Xylene   | ND     |           | ug/l  | 1.0  | 0.33 |
| o-Xylene   | ND     |           | ug/l  | 1.0  | 0.39 |
| Xylenes, Total   | ND     |           | ug/l  | 1.0  | 0.33 |
| cis-1,2-Dichloroethene   | ND     |           | ug/l  | 0.50 | 0.19 |
| Dibromomethane   | ND     |           | ug/l  | 5.0  | 0.36 |
| 1,4-Dichlorobutane   | ND     |           | ug/l  | 5.0  | 0.46 |
| Iodomethane  | ND     |           | ug/l  | 5.0  | 0.40 |
| 1,2,3-Trichloropropane   | ND     |           | ug/l  | 5.0  | 0.18 |
| Styrene  | ND     |           | ug/l  | 1.0  | 0.36 |
| Dichlorodifluoromethane  | ND     |           | ug/l  | 5.0  | 0.24 |
| Acetone  | ND     |           | ug/l  | 5.0  | 1.5  |
| Carbon disulfide   | ND     |           | ug/l  | 5.0  | 0.30 |
| 2-Butanone   | ND     |           | ug/l  | 5.0  | 1.9  |
| Vinyl acetate  | ND     |           | ug/l  | 5.0  | 0.31 |
| 4-Methyl-2-pentanone   | ND     |           | ug/l  | 5.0  | 0.42 |
| 2-Hexanone   | ND     |           | ug/l  | 5.0  | 0.52 |
| Ethyl methacrylate   | ND     |           | ug/l  | 5.0  | 0.61 |
| Acrolein   | ND     |           | ug/l  | 5.0  | 0.44 |
| Acrylonitrile  | ND     |           | ug/l  | 5.0  | 0.43 |
| Bromochloromethane   | ND     |           | ug/l  | 2.5  | 0.15 |
| Tetrahydrofuran  | ND     |           | ug/l  | 5.0  | 0.52 |
| 2,2-Dichloropropane  | ND     |           | ug/l  | 2.5  | 0.20 |
| 1,2-Dibromoethane  | ND     |           | ug/l  | 2.0  | 0.19 |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 05/02/19 08:43  
Analyst: PD

| Parameter  | Result | Qualifier | Units | RL   | MDL  |
|--|--------|-----------|-------|------|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5 |        |           |       |      |      |
| 1,3-Dichloropropane  | ND     |           | ug/l  | 2.5  | 0.21 |
| 1,1,1,2-Tetrachloroethane  | ND     |           | ug/l  | 0.50 | 0.16 |
| Bromobenzene   | ND     |           | ug/l  | 2.5  | 0.15 |
| n-Butylbenzene   | ND     |           | ug/l  | 0.50 | 0.19 |
| sec-Butylbenzene   | ND     |           | ug/l  | 0.50 | 0.18 |
| tert-Butylbenzene  | ND     |           | ug/l  | 2.5  | 0.20 |
| o-Chlorotoluene  | ND     |           | ug/l  | 2.5  | 0.22 |
| p-Chlorotoluene  | ND     |           | ug/l  | 2.5  | 0.18 |
| 1,2-Dibromo-3-chloropropane  | ND     |           | ug/l  | 2.5  | 0.35 |
| Hexachlorobutadiene  | ND     |           | ug/l  | 0.50 | 0.22 |
| Isopropylbenzene   | ND     |           | ug/l  | 0.50 | 0.19 |
| p-Isopropyltoluene   | ND     |           | ug/l  | 0.50 | 0.19 |
| Naphthalene  | ND     |           | ug/l  | 2.5  | 0.22 |
| n-Propylbenzene  | ND     |           | ug/l  | 0.50 | 0.17 |
| 1,2,3-Trichlorobenzene   | ND     |           | ug/l  | 2.5  | 0.23 |
| 1,2,4-Trichlorobenzene   | ND     |           | ug/l  | 2.5  | 0.22 |
| 1,3,5-Trimethylbenzene   | ND     |           | ug/l  | 2.5  | 0.22 |
| 1,3,5-Trichlorobenzene   | ND     |           | ug/l  | 2.0  | 0.14 |
| 1,2,4-Trimethylbenzene   | ND     |           | ug/l  | 2.5  | 0.19 |
| trans-1,4-Dichloro-2-butene  | ND     |           | ug/l  | 2.5  | 0.21 |
| Halothane  | ND     |           | ug/l  | 2.5  | 0.29 |
| Ethyl ether  | ND     |           | ug/l  | 2.5  | 0.16 |
| Methyl Acetate   | ND     |           | ug/l  | 10   | 0.23 |
| Ethyl Acetate  | ND     |           | ug/l  | 10   | 0.72 |
| Isopropyl Ether  | ND     |           | ug/l  | 2.0  | 0.42 |
| Cyclohexane  | ND     |           | ug/l  | 10   | 0.27 |
| Tert-Butyl Alcohol   | ND     |           | ug/l  | 10   | 1.4  |
| Ethyl-Tert-Butyl-Ether   | ND     |           | ug/l  | 2.0  | 0.18 |
| Tertiary-Amyl Methyl Ether   | ND     |           | ug/l  | 2.0  | 0.28 |



**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 05/02/19 08:43  
Analyst: PD

| Parameter  | Result | Qualifier | Units | RL  | MDL  |
|--|--------|-----------|-------|-----|------|
| Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1233043-5 |        |           |       |     |      |
| 1,4-Dioxane  | ND     |           | ug/l  | 250 | 61.  |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane  | ND     |           | ug/l  | 10  | 0.15 |
| Methyl cyclohexane   | ND     |           | ug/l  | 10  | 0.40 |
| p-Diethylbenzene   | ND     |           | ug/l  | 2.0 | 0.39 |
| 4-Ethyltoluene   | ND     |           | ug/l  | 2.0 | 0.34 |
| 1,2,4,5-Tetramethylbenzene   | ND     |           | ug/l  | 2.0 | 0.54 |

| Surrogate             | %Recovery | Qualifier | Acceptance<br>Criteria |
|-----------------------|-----------|-----------|------------------------|
| 1,2-Dichloroethane-d4 | 97        |           | 70-130                 |
| Toluene-d8            | 96        |           | 70-130                 |
| 4-Bromofluorobenzene  | 105       |           | 70-130                 |
| Dibromofluoromethane  | 100       |           | 70-130                 |

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM

**Lab Number:** L1917478

**Project Number:** Not Specified

**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCSD      |      | %Recovery |      | RPD | Qual | RPD | Qual | RPD | Limits |
|---|-----------|------|-----------|------|-----------|------|-----|------|-----|------|-----|--------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual |     |      |     |      |     |        |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4 |           |      |           |      |           |      |     |      |     |      |     |        |
| Methylene chloride  | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| 1,1-Dichloroethane  | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| Chloroform  | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| Carbon tetrachloride  | 120       |      | 120       |      | 63-132    |      | 0   |      | 0   |      |     | 20     |
| 1,2-Dichloropropane   | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| Dibromochloromethane  | 96        |      | 95        |      | 63-130    |      | 1   |      | 1   |      |     | 20     |
| 1,1,2-Trichloroethane   | 100       |      | 100       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| 2-Chloroethylvinyl ether  | 79        |      | 76        |      | 70-130    |      | 4   |      | 4   |      |     | 20     |
| Tetrachloroethene   | 110       |      | 100       |      | 70-130    |      | 10  |      | 10  |      |     | 20     |
| Chlorobenzene   | 100       |      | 100       |      | 75-130    |      | 0   |      | 0   |      |     | 25     |
| Trichlorofluoromethane  | 120       |      | 120       |      | 62-150    |      | 0   |      | 0   |      |     | 20     |
| 1,2-Dichloroethane  | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| 1,1,1-Trichloroethane   | 110       |      | 110       |      | 67-130    |      | 0   |      | 0   |      |     | 20     |
| Bromodichloromethane  | 110       |      | 110       |      | 67-130    |      | 0   |      | 0   |      |     | 20     |
| trans-1,3-Dichloropropene   | 97        |      | 96        |      | 70-130    |      | 1   |      | 1   |      |     | 20     |
| cis-1,3-Dichloropropene   | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| 1,1-Dichloropropene   | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| Bromoform   | 88        |      | 86        |      | 54-136    |      | 2   |      | 2   |      |     | 20     |
| 1,1,2,2-Tetrachloroethane   | 100       |      | 99        |      | 67-130    |      | 1   |      | 1   |      |     | 20     |
| Benzene   | 110       |      | 110       |      | 70-130    |      | 0   |      | 0   |      |     | 25     |
| Toluene   | 100       |      | 100       |      | 70-130    |      | 0   |      | 0   |      |     | 25     |
| Ethylbenzene  | 100       |      | 100       |      | 70-130    |      | 0   |      | 0   |      |     | 20     |
| Chloromethane   | 120       |      | 110       |      | 64-130    |      | 9   |      | 9   |      |     | 20     |

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCSD      |      | %Recovery Limits | RPD | Qual | RPD Limits |
|---|-----------|------|-----------|------|------------------|-----|------|------------|
|   | %Recovery | Qual | %Recovery | Qual |                  |     |      |            |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4 |           |      |           |      |                  |     |      |            |
| Bromomethane  | 120       |      | 110       |      | 39-139           | 9   |      | 20         |
| Vinyl chloride  | 120       |      | 120       |      | 55-140           | 0   |      | 20         |
| Chloroethane  | 120       |      | 120       |      | 55-138           | 0   |      | 20         |
| 1,1-Dichloroethene  | 120       |      | 120       |      | 61-145           | 0   |      | 25         |
| trans-1,2-Dichloroethene  | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| Trichloroethene   | 110       |      | 110       |      | 70-130           | 0   |      | 25         |
| 1,2-Dichlorobenzene   | 99        |      | 98        |      | 70-130           | 1   |      | 20         |
| 1,3-Dichlorobenzene   | 100       |      | 100       |      | 70-130           | 0   |      | 20         |
| 1,4-Dichlorobenzene   | 100       |      | 100       |      | 70-130           | 0   |      | 20         |
| Methyl tert butyl ether   | 110       |      | 110       |      | 63-130           | 0   |      | 20         |
| p/m-Xylene  | 105       |      | 105       |      | 70-130           | 0   |      | 20         |
| o-Xylene  | 105       |      | 105       |      | 70-130           | 0   |      | 20         |
| cis-1,2-Dichloroethene  | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| Dibromomethane  | 110       |      | 100       |      | 70-130           | 10  |      | 20         |
| 1,4-Dichlorobutane  | 100       |      | 100       |      | 70-130           | 0   |      | 20         |
| Iodomethane   | 74        |      | 87        |      | 70-130           | 16  |      | 20         |
| 1,2,3-Trichloropropane  | 99        |      | 110       |      | 64-130           | 11  |      | 20         |
| Styrene   | 100       |      | 100       |      | 70-130           | 0   |      | 20         |
| Dichlorodifluoromethane   | 120       |      | 120       |      | 36-147           | 0   |      | 20         |
| Acetone   | 110       |      | 100       |      | 58-148           | 10  |      | 20         |
| Carbon disulfide  | 120       |      | 110       |      | 51-130           | 9   |      | 20         |
| 2-Butanone  | 100       |      | 110       |      | 63-138           | 10  |      | 20         |
| Vinyl acetate   | 110       |      | 110       |      | 70-130           | 0   |      | 20         |

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM

**Lab Number:** L1917478

**Project Number:** Not Specified

**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS D     |      | %Recovery |      | RPD |        |
|---|-----------|------|-----------|------|-----------|------|-----|--------|
|   | %Recovery | Qual | %Recovery | Qual | Limits    | Qual | RPD | Limits |
| Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4 |           |      |           |      |           |      |     |        |
| 4-Methyl-2-pentanone  | 92        |      | 91        |      | 59-130    |      | 1   | 20     |
| 2-Hexanone  | 97        |      | 97        |      | 57-130    |      | 0   | 20     |
| Ethyl methacrylate  | 97        |      | 96        |      | 70-130    |      | 1   | 20     |
| Acrolein  | 100       |      | 100       |      | 70-130    |      | 0   | 20     |
| Acrylonitrile   | 100       |      | 100       |      | 70-130    |      | 0   | 20     |
| Bromochloromethane  | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| Tetrahydrofuran   | 100       |      | 100       |      | 58-130    |      | 0   | 20     |
| 2,2-Dichloropropane   | 120       |      | 120       |      | 63-133    |      | 0   | 20     |
| 1,2-Dibromoethane   | 100       |      | 99        |      | 70-130    |      | 1   | 20     |
| 1,3-Dichloropropane   | 100       |      | 100       |      | 70-130    |      | 0   | 20     |
| 1,1,1,2-Tetrachloroethane   | 100       |      | 100       |      | 64-130    |      | 0   | 20     |
| Bromobenzene  | 100       |      | 100       |      | 70-130    |      | 0   | 20     |
| n-Butylbenzene  | 110       |      | 110       |      | 53-136    |      | 0   | 20     |
| sec-Butylbenzene  | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| tert-Butylbenzene   | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| o-Chlorotoluene   | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| p-Chlorotoluene   | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| 1,2-Dibromo-3-chloropropane   | 83        |      | 80        |      | 41-144    |      | 4   | 20     |
| Hexachlorobutadiene   | 110       |      | 100       |      | 63-130    |      | 10  | 20     |
| Isopropylbenzene  | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| p-Isopropyltoluene  | 110       |      | 110       |      | 70-130    |      | 0   | 20     |
| Naphthalene   | 91        |      | 88        |      | 70-130    |      | 3   | 20     |
| n-Propylbenzene   | 110       |      | 110       |      | 69-130    |      | 0   | 20     |

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4

| Parameter                             | LCS       |      | LCSD      |      | %Recovery Limits | RPD | Qual | RPD Limits |
|---------------------------------------|-----------|------|-----------|------|------------------|-----|------|------------|
|                                       | %Recovery | Qual | %Recovery | Qual |                  |     |      |            |
| 1,2,3-Trichlorobenzene                | 91        |      | 90        |      | 70-130           | 1   |      | 20         |
| 1,2,4-Trichlorobenzene                | 95        |      | 95        |      | 70-130           | 0   |      | 20         |
| 1,3,5-Trimethylbenzene                | 110       |      | 110       |      | 64-130           | 0   |      | 20         |
| 1,3,5-Trichlorobenzene                | 99        |      | 98        |      | 70-130           | 1   |      | 20         |
| 1,2,4-Trimethylbenzene                | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| trans-1,4-Dichloro-2-butene           | 95        |      | 90        |      | 70-130           | 5   |      | 20         |
| Halothane                             | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| Ethyl ether                           | 110       |      | 110       |      | 59-134           | 0   |      | 20         |
| Methyl Acetate                        | 100       |      | 100       |      | 70-130           | 0   |      | 20         |
| Ethyl Acetate                         | 39        | Q    | 39        | Q    | 70-130           | 0   |      | 20         |
| Isopropyl Ether                       | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| Cyclohexane                           | 120       |      | 120       |      | 70-130           | 0   |      | 20         |
| Tert-Butyl Alcohol                    | 112       |      | 108       |      | 70-130           | 4   |      | 20         |
| Ethyl-Tert-Butyl-Ether                | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| Tertiary-Amyl Methyl Ether            | 100       |      | 100       |      | 66-130           | 0   |      | 20         |
| 1,4-Dioxane                           | 112       |      | 108       |      | 56-162           | 4   |      | 20         |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | 120       |      | 120       |      | 70-130           | 0   |      | 20         |
| Methyl cyclohexane                    | 120       |      | 120       |      | 70-130           | 0   |      | 20         |
| p-Diethylbenzene                      | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| 4-Ethyltoluene                        | 110       |      | 110       |      | 70-130           | 0   |      | 20         |
| 1,2,4,5-Tetramethylbenzene            | 100       |      | 100       |      | 70-130           | 0   |      | 20         |

### Lab Control Sample Analysis

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

Batch Quality Control

| Parameter | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|-----------|------------------|------|-------------------|------|---------------------|-----|------|---------------|
|-----------|------------------|------|-------------------|------|---------------------|-----|------|---------------|

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1233043-3 WG1233043-4

| Surrogate             | LCS<br>%Recovery | Qual | LCSD<br>%Recovery | Qual | Acceptance<br>Criteria |
|-----------------------|------------------|------|-------------------|------|------------------------|
| 1,2-Dichloroethane-d4 | 98               |      | 98                |      | 70-130                 |
| Toluene-d8            | 97               |      | 96                |      | 70-130                 |
| 4-Bromofluorobenzene  | 103              |      | 102               |      | 70-130                 |
| Dibromofluoromethane  | 100              |      | 100               |      | 70-130                 |



# PCBS





**Project Name:** LMC MRC/95840ACM**Lab Number:** L1917478**Project Number:** Not Specified**Report Date:** 05/10/19**SAMPLE RESULTS**

Lab ID: L1917478-01  
 Client ID: MRC-SW7A-S-042419-AA  
 Sample Location: BALTIMORE, MD

Date Collected: 04/25/19 09:45  
 Date Received: 04/27/19  
 Field Prep: Not Specified

Sample Depth:

Matrix: Water  
 Analytical Method: 105,8270D-SIM/680(M)  
 Analytical Date: 05/01/19 06:32  
 Analyst: SV

Extraction Method: EPA 3510C  
 Extraction Date: 04/30/19 08:30

| Parameter  | Result | Qualifier | Units | RL    | MDL   | Dilution Factor |
|--|--------|-----------|-------|-------|-------|-----------------|
| <b>PCB Homologs by GC/MS-SIM - Mansfield Lab</b> |        |           |       |       |       |                 |
| Monochlorobiphenyls                              | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Dichlorobiphenyls                                | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Trichlorobiphenyls                               | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Tetrachlorobiphenyls                             | 2.16   |           | ng/l  | 0.526 | 0.526 | 1               |
| Pentachlorobiphenyls                             | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Hexachlorobiphenyls                              | 1.64   |           | ng/l  | 0.526 | 0.526 | 1               |
| Heptachlorobiphenyls                             | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Octachlorobiphenyls                              | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Nonachlorobiphenyls                              | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Decachlorobiphenyl                               | ND     |           | ng/l  | 0.526 | 0.526 | 1               |
| Total Homologs                                   | 3.80   |           | ng/l  | 0.526 | 0.526 | 1               |

| Surrogate      | % Recovery | Qualifier | Acceptance Criteria |
|----------------|------------|-----------|---------------------|
| Cl3-BZ#19-C13  | 100        |           | 50-125              |
| Cl8-BZ#202-C13 | 104        |           | 50-125              |

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 105,8270D-SIM/680(M)  
Analytical Date: 05/01/19 02:34  
Analyst: SV

Extraction Method: EPA 3510C  
Extraction Date: 04/30/19 08:30

| Parameter  | Result | Qualifier | Units | RL    | MDL   |
|--|--------|-----------|-------|-------|-------|
| PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 01 Batch: WG1231807-1 |        |           |       |       |       |
| Monochlorobiphenyls  | ND     |           | ng/l  | 0.500 | 0.500 |
| Dichlorobiphenyls  | ND     |           | ng/l  | 0.500 | 0.500 |
| Trichlorobiphenyls   | ND     |           | ng/l  | 0.500 | 0.500 |
| Tetrachlorobiphenyls   | ND     |           | ng/l  | 0.500 | 0.500 |
| Pentachlorobiphenyls   | ND     |           | ng/l  | 0.500 | 0.500 |
| Hexachlorobiphenyls  | ND     |           | ng/l  | 0.500 | 0.500 |
| Heptachlorobiphenyls   | ND     |           | ng/l  | 0.500 | 0.500 |
| Octachlorobiphenyls  | ND     |           | ng/l  | 0.500 | 0.500 |
| Nonachlorobiphenyls  | ND     |           | ng/l  | 0.500 | 0.500 |
| Decachlorobiphenyl   | ND     |           | ng/l  | 0.500 | 0.500 |
| Total Homologs   | ND     |           | ng/l  | 0.500 | 0.500 |

| Surrogate      | %Recovery | Qualifier | Acceptance<br>Criteria |
|----------------|-----------|-----------|------------------------|
| C13-BZ#19-C13  | 96        |           | 50-125                 |
| C18-BZ#202-C13 | 99        |           | 50-125                 |

## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM

**Lab Number:** L1917478

**Project Number:** Not Specified

**Report Date:** 05/10/19

| Parameter | LCS<br>%Recovery | Qual | LCS D<br>%Recovery | Qual | %Recovery<br>Limits | RPD | Qual | RPD<br>Limits |
|-----------|------------------|------|--------------------|------|---------------------|-----|------|---------------|
|-----------|------------------|------|--------------------|------|---------------------|-----|------|---------------|

PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3

|              |    |  |    |  |        |   |  |    |
|--------------|----|--|----|--|--------|---|--|----|
| C11-BZ#1     | 91 |  | 89 |  | 40-140 | 2 |  | 30 |
| C11-BZ#2     | 90 |  | 88 |  | 40-140 | 2 |  | 30 |
| CL1-BZ#3     | 91 |  | 88 |  | 40-140 | 3 |  | 30 |
| C12-BZ#4/#10 | 92 |  | 90 |  | 40-140 | 2 |  | 30 |
| C12-BZ#9     | 91 |  | 88 |  | 40-140 | 3 |  | 30 |
| C12-BZ#7     | 91 |  | 89 |  | 40-140 | 2 |  | 30 |
| C12-BZ#6     | 91 |  | 88 |  | 40-140 | 3 |  | 30 |
| C12-BZ#5     | 89 |  | 86 |  | 40-140 | 3 |  | 30 |
| C12-BZ#8     | 90 |  | 88 |  | 40-140 | 2 |  | 30 |
| C13-BZ#19    | 91 |  | 89 |  | 40-140 | 2 |  | 30 |
| C12-BZ#14    | 92 |  | 89 |  | 40-140 | 3 |  | 30 |
| C13-BZ#30    | 90 |  | 88 |  | 40-140 | 2 |  | 30 |
| C13-BZ#18    | 90 |  | 87 |  | 40-140 | 3 |  | 30 |
| C12-BZ#11    | 90 |  | 88 |  | 40-140 | 2 |  | 30 |
| C13-BZ#17    | 91 |  | 89 |  | 40-140 | 2 |  | 30 |
| C12-BZ#12    | 95 |  | 92 |  | 40-140 | 3 |  | 30 |
| C13-BZ#27    | 93 |  | 90 |  | 40-140 | 3 |  | 30 |
| C12-BZ#13    | 90 |  | 88 |  | 40-140 | 2 |  | 30 |
| C13-BZ#24    | 92 |  | 89 |  | 40-140 | 3 |  | 30 |
| C13-BZ#16    | 91 |  | 88 |  | 40-140 | 3 |  | 30 |
| C13-BZ#32    | 90 |  | 87 |  | 40-140 | 3 |  | 30 |
| C12-BZ#15    | 88 |  | 85 |  | 40-140 | 3 |  | 30 |
| C13-BZ#34    | 91 |  | 88 |  | 40-140 | 3 |  | 30 |



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS |            |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|------------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | RPD Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |     |            |
| C13-BZ#23   | 92        |      | 89        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C14-BZ#54   | 92        |      | 90        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C13-BZ#29   | 91        |      | 88        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C14-BZ#50   | 90        |      | 88        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C13-BZ#26   | 92        |      | 89        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C13-BZ#25   | 90        |      | 87        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C14-BZ#53   | 90        |      | 87        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C13-BZ#-31  | 89        |      | 86        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C13-BZ#28   | 91        |      | 87        |      | 40-140    |      | 4         |      | 30        |      |     |            |
| C13-BZ#33   | 101       |      | 89        |      | 40-140    |      | 13        |      | 30        |      |     |            |
| C14-BZ#51   | 95        |      | 93        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C13-BZ#21/#20   | 94        |      | 88        |      | 40-140    |      | 7         |      | 30        |      |     |            |
| C14-BZ#45   | 89        |      | 87        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C13-BZ#22   | 89        |      | 87        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C14-BZ#73/#46   | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C14-BZ#69   | 93        |      | 89        |      | 40-140    |      | 4         |      | 30        |      |     |            |
| C14-BZ#43   | 91        |      | 89        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C13-BZ#36   | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C14-BZ#52   | 93        |      | 91        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C14-BZ#48   | 91        |      | 89        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C14-BZ#49   | 96        |      | 93        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C15-BZ#104  | 98        |      | 97        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C14-BZ#47   | 94        |      | 98        |      | 40-140    |      | 4         |      | 30        |      |     |            |



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | %Recovery |      | RPD |        |
|---|-----------|------|-----------|------|-----------|------|-----|--------|
|   | %Recovery | Qual | %Recovery | Qual | Limits    | Qual | RPD | Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |     |        |
| C14-BZ#65/#75/#62   | 94        |      | 91        |      | 40-140    |      | 3   | 30     |
| C13-BZ#39   | 93        |      | 90        |      | 40-140    |      | 3   | 30     |
| C13-BZ#38   | 93        |      | 91        |      | 40-140    |      | 2   | 30     |
| C14-BZ#44   | 89        |      | 87        |      | 40-140    |      | 2   | 30     |
| C14-BZ#59   | 97        |      | 93        |      | 40-140    |      | 4   | 30     |
| C14-BZ#42   | 94        |      | 94        |      | 40-140    |      | 0   | 30     |
| C14-BZ#71   | 92        |      | 90        |      | 40-140    |      | 2   | 30     |
| C13-BZ#35   | 94        |      | 91        |      | 40-140    |      | 3   | 30     |
| C14-BZ#41   | 91        |      | 87        |      | 40-140    |      | 4   | 30     |
| C14-BZ#72   | 95        |      | 93        |      | 40-140    |      | 2   | 30     |
| C15-BZ#96   | 96        |      | 94        |      | 40-140    |      | 2   | 30     |
| C15-BZ#103  | 94        |      | 93        |      | 40-140    |      | 1   | 30     |
| C14-BZ#68/#64   | 98        |      | 95        |      | 40-140    |      | 3   | 30     |
| C14-BZ#40   | 92        |      | 91        |      | 40-140    |      | 1   | 30     |
| C13-BZ#37   | 91        |      | 89        |      | 40-140    |      | 2   | 30     |
| C15-BZ#100  | 99        |      | 96        |      | 40-140    |      | 3   | 30     |
| C15-BZ#94   | 98        |      | 95        |      | 40-140    |      | 3   | 30     |
| C14-BZ#57   | 90        |      | 88        |      | 40-140    |      | 2   | 30     |
| C14-BZ#67/#58   | 94        |      | 92        |      | 40-140    |      | 2   | 30     |
| C15-BZ#102  | 97        |      | 94        |      | 40-140    |      | 3   | 30     |
| C14-BZ#61   | 92        |      | 90        |      | 40-140    |      | 2   | 30     |
| C15-BZ#98   | 96        |      | 93        |      | 40-140    |      | 3   | 30     |
| C14-BZ#76   | 94        |      | 90        |      | 40-140    |      | 4   | 30     |



## Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM

**Lab Number:** L1917478

**Project Number:** Not Specified

**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS |            |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|------------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | RPD Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |           |      |     |            |
| C15-BZ#93   | 98        |      | 95        |      | 40-140    |      | 3         |      | 30        |      |           |      |     |            |
| C14-BZ#63   | 101       |      | 100       |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C15-BZ#121/#95/#88  | 98        |      | 96        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C14-BZ#74   | 96        |      | 93        |      | 40-140    |      | 3         |      | 30        |      |           |      |     |            |
| C16-BZ#155  | 100       |      | 99        |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C14-BZ#70   | 105       |      | 104       |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C15-BZ#91   | 110       |      | 110       |      | 40-140    |      | 0         |      | 30        |      |           |      |     |            |
| C14-BZ#66   | 105       |      | 104       |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C14-BZ#80   | 99        |      | 98        |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C14-BZ#55   | 97        |      | 96        |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C15-BZ#92   | 100       |      | 98        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C15-BZ#89/#84   | 96        |      | 96        |      | 40-140    |      | 0         |      | 30        |      |           |      |     |            |
| C15-BZ#101/#90  | 104       |      | 100       |      | 40-140    |      | 4         |      | 30        |      |           |      |     |            |
| C14-BZ#56   | 106       |      | 99        |      | 40-140    |      | 7         |      | 30        |      |           |      |     |            |
| C15-BZ#113  | 100       |      | 100       |      | 40-140    |      | 0         |      | 30        |      |           |      |     |            |
| C15-BZ#99   | 98        |      | 96        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C16-BZ#150  | 101       |      | 99        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C14-BZ#60   | 98        |      | 96        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C16-BZ#152  | 98        |      | 95        |      | 40-140    |      | 3         |      | 30        |      |           |      |     |            |
| C15-BZ#119  | 102       |      | 98        |      | 40-140    |      | 4         |      | 30        |      |           |      |     |            |
| C15-BZ#83/#125/#112   | 100       |      | 98        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |
| C15-BZ#86/#109  | 97        |      | 98        |      | 40-140    |      | 1         |      | 30        |      |           |      |     |            |
| C16-BZ#145  | 100       |      | 98        |      | 40-140    |      | 2         |      | 30        |      |           |      |     |            |



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS |            |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|------------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | RPD Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |     |            |
| C15-BZ#97   | 106       |      | 104       |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#148  | 98        |      | 96        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C14-BZ#79   | 96        |      | 94        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C15-BZ#116  | 97        |      | 94        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C16-BZ#154  | 100       |      | 97        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C14-BZ#78   | 97        |      | 96        |      | 40-140    |      | 1         |      | 40-140    |      | 1   | 30         |
| C15-BZ#87/#111  | 102       |      | 100       |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#136  | 102       |      | 100       |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C15-BZ#117  | 100       |      | 96        |      | 40-140    |      | 4         |      | 40-140    |      | 4   | 30         |
| C15-BZ#115  | 98        |      | 101       |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C15-BZ#85   | 108       |      | 103       |      | 40-140    |      | 5         |      | 40-140    |      | 5   | 30         |
| C15-BZ#120  | 100       |      | 97        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C15-BZ#110  | 94        |      | 92        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C14-BZ#81   | 94        |      | 92        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#151  | 93        |      | 91        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#135  | 94        |      | 91        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C15-BZ#82   | 92        |      | 90        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#144  | 96        |      | 93        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C16-BZ#147/#149   | 95        |      | 92        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |
| C14-BZ#77   | 94        |      | 93        |      | 40-140    |      | 1         |      | 40-140    |      | 1   | 30         |
| C16-BZ#143/#139   | 94        |      | 92        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C15-BZ#124  | 93        |      | 91        |      | 40-140    |      | 2         |      | 40-140    |      | 2   | 30         |
| C16-BZ#140  | 97        |      | 94        |      | 40-140    |      | 3         |      | 40-140    |      | 3   | 30         |



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS |            |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|------------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | RPD Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |     |            |
| C15-BZ#108  | 86        |      | 89        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C15-BZ#107#123  | 100       |      | 95        |      | 40-140    |      | 5         |      | 30        |      |     |            |
| C17-BZ#188  | 94        |      | 91        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C16-BZ#134  | 97        |      | 96        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C15-BZ#106  | 97        |      | 95        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C16-BZ#133  | 98        |      | 100       |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C16-BZ#142  | 100       |      | 90        |      | 40-140    |      | 11        |      | 30        |      |     |            |
| C15-BZ#118  | 107       |      | 98        |      | 40-140    |      | 9         |      | 30        |      |     |            |
| C16-BZ#131  | 102       |      | 103       |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C17-BZ#184  | 103       |      | 102       |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#165  | 104       |      | 103       |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#146  | 103       |      | 104       |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#161  | 100       |      | 99        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C15-BZ#122  | 101       |      | 101       |      | 40-140    |      | 0         |      | 30        |      |     |            |
| C16-BZ#168  | 102       |      | 95        |      | 40-140    |      | 7         |      | 30        |      |     |            |
| C15-BZ#114  | 101       |      | 100       |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#153  | 93        |      | 99        |      | 40-140    |      | 6         |      | 30        |      |     |            |
| C16-BZ#132  | 93        |      | 91        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C17-BZ#179  | 95        |      | 92        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C16-BZ#141  | 92        |      | 92        |      | 40-140    |      | 0         |      | 30        |      |     |            |
| C17-BZ#176  | 97        |      | 95        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C15-BZ#105  | 89        |      | 88        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#137  | 105       |      | 103       |      | 40-140    |      | 2         |      | 30        |      |     |            |





# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | %Recovery |      | LCS       |      | %Recovery |      | RPD |        |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|--------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |     |        |
| C15-BZ#127  | 92        |      | 91        |      | 40-140    |      | 1         |      | 30        |      |     |        |
| C17-BZ#186  | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C16-BZ#130/#164   | 96        |      | 94        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#178  | 94        |      | 93        |      | 40-140    |      | 1         |      | 30        |      |     |        |
| C16-BZ#138  | 98        |      | 93        |      | 40-140    |      | 5         |      | 30        |      |     |        |
| C16-BZ#163/#160   | 100       |      | 97        |      | 40-140    |      | 3         |      | 30        |      |     |        |
| C16-BZ#129/#158   | 95        |      | 96        |      | 40-140    |      | 1         |      | 30        |      |     |        |
| C17-BZ#182/#175   | 97        |      | 95        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#187  | 92        |      | 90        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#183  | 88        |      | 88        |      | 40-140    |      | 0         |      | 30        |      |     |        |
| C16-BZ#166  | 89        |      | 87        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C16-BZ#159  | 90        |      | 90        |      | 40-140    |      | 0         |      | 30        |      |     |        |
| C15-BZ#126  | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#185  | 98        |      | 97        |      | 40-140    |      | 1         |      | 30        |      |     |        |
| C16-BZ#162  | 92        |      | 92        |      | 40-140    |      | 0         |      | 30        |      |     |        |
| C17-BZ#174  | 95        |      | 93        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C16-BZ#128  | 93        |      | 92        |      | 40-140    |      | 1         |      | 30        |      |     |        |
| C18-BZ#202  | 95        |      | 93        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C16-BZ#167  | 99        |      | 97        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#181  | 93        |      | 91        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#177  | 95        |      | 92        |      | 40-140    |      | 3         |      | 30        |      |     |        |
| C18-BZ#204/#200-CAL   | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |        |
| C17-BZ#171  | 91        |      | 91        |      | 40-140    |      | 0         |      | 30        |      |     |        |



# Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS       |      | LCS |            |
|---|-----------|------|-----------|------|-----------|------|-----------|------|-----------|------|-----|------------|
|   | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | %Recovery | Qual | RPD | RPD Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |      |           |      |           |      |     |            |
| C17-BZ#173  | 91        |      | 88        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C18-BZ#197  | 92        |      | 91        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C17-BZ#172  | 87        |      | 86        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C17-BZ#192  | 94        |      | 92        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C16-BZ#156  | 99        |      | 98        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#157  | 86        |      | 85        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C17-BZ#180  | 88        |      | 88        |      | 40-140    |      | 0         |      | 30        |      |     |            |
| C17-BZ#193  | 89        |      | 86        |      | 40-140    |      | 3         |      | 30        |      |     |            |
| C18-BZ#199  | 92        |      | 90        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C17-BZ#191  | 90        |      | 88        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C18-BZ#198  | 87        |      | 88        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C18-BZ#201  | 97        |      | 92        |      | 40-140    |      | 5         |      | 30        |      |     |            |
| C17-BZ#170  | 87        |      | 84        |      | 40-140    |      | 4         |      | 30        |      |     |            |
| C17-BZ#190  | 94        |      | 93        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C18-BZ#196  | 97        |      | 92        |      | 40-140    |      | 5         |      | 30        |      |     |            |
| C18-BZ#203  | 91        |      | 92        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C16-BZ#169  | 89        |      | 87        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C19-BZ#208  | 92        |      | 90        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C19-BZ#207  | 89        |      | 88        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C17-BZ#189  | 91        |      | 89        |      | 40-140    |      | 2         |      | 30        |      |     |            |
| C18-BZ#195  | 94        |      | 93        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C18-BZ#194  | 92        |      | 91        |      | 40-140    |      | 1         |      | 30        |      |     |            |
| C18-BZ#205  | 91        |      | 89        |      | 40-140    |      | 2         |      | 30        |      |     |            |



### Lab Control Sample Analysis

Batch Quality Control

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

| Parameter   | LCS       |      | LCSD      |      | %Recovery |     | RPD  |        |
|---|-----------|------|-----------|------|-----------|-----|------|--------|
|   | %Recovery | Qual | %Recovery | Qual | Limits    | RPD | Qual | Limits |
| PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01 Batch: WG1231807-2 WG1231807-3 |           |      |           |      |           |     |      |        |
| C19-BZ#206  | 92        |      | 90        |      | 40-140    | 2   |      | 30     |
| C110-BZ#209   | 93        |      | 93        |      | 40-140    | 0   |      | 30     |

| Surrogate      | LCS       |      | LCSD      |      | Acceptance |          |
|----------------|-----------|------|-----------|------|------------|----------|
|                | %Recovery | Qual | %Recovery | Qual | Criteria   | Criteria |
| C13-BZ#19-C13  | 94        |      | 89        |      | 50-125     | 50-125   |
| C18-BZ#202-C13 | 100       |      | 97        |      | 50-125     | 50-125   |



Serial\_No:05101912:23  
**Lab Number:** L1917478  
**Report Date:** 05/10/19

**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

**Cooler Information**  
**Cooler** A  
**Custody Seal** Absent

| <b>Container Information</b> |                          | <b>Initial pH</b> | <b>Final pH</b> | <b>Temp deg C</b> | <b>Pres</b> | <b>Seal</b> | <b>Frozen Date/Time</b> | <b>Analysis(*)</b>    |
|------------------------------|--------------------------|-------------------|-----------------|-------------------|-------------|-------------|-------------------------|-----------------------|
| <b>Container ID</b>          | <b>Container Type</b>    |                   |                 |                   |             |             |                         |                       |
| L1917478-01A                 | Vial HCl preserved       | NA                |                 | 3.9               | Y           | Absent      |                         | 8260(14)              |
| L1917478-01B                 | Vial HCl preserved       | NA                |                 | 3.9               | Y           | Absent      |                         | 8260(14)              |
| L1917478-01C                 | Amber 1000ml unpreserved | 7                 | 7               | 3.9               | Y           | Absent      |                         | A2-PCBHOMS-8270SIM(7) |
| L1917478-01D                 | Amber 1000ml unpreserved | 7                 | 7               | 3.9               | Y           | Absent      |                         | A2-PCBHOMS-8270SIM(7) |
| L1917478-02A                 | Vial HCl preserved       | NA                |                 | 3.9               | Y           | Absent      |                         | 8260(14)              |
| L1917478-02B                 | Vial HCl preserved       | NA                |                 | 3.9               | Y           | Absent      |                         | 8260(14)              |

\*Values in parentheses indicate holding time in days



**Project Name:** LMC MRC/95840ACM  
**Project Number:** Not Specified

**Lab Number:** L1917478  
**Report Date:** 05/10/19

## GLOSSARY

### Acronyms

|          |  |
|----------|--|
| DL       | - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)  |
| EDL      | - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).   |
| EMPC     | - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.   |
| EPA      | - Environmental Protection Agency.   |
| LCS      | - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.  |
| LCSD     | - Laboratory Control Sample Duplicate: Refer to LCS.   |
| LFB      | - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.   |
| LOD      | - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)   |
| LOQ      | - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)<br><br>Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) |
| MDL      | - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.  |
| MS       | - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.  |
| MSD      | - Matrix Spike Sample Duplicate: Refer to MS.  |
| NA       | - Not Applicable.  |
| NC       | - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.   |
| NDPA/DPA | - N-Nitrosodiphenylamine/Diphenylamine.  |
| NI       | - Not Ignitable.   |
| NP       | - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.  |
| RL       | - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.   |
| RPD      | - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.  |
| SRM      | - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.   |
| STLP     | - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.  |
| TEF      | - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.   |
| TEQ      | - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.  |
| TIC      | - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.  |

### Footnotes

Report Format: DU Report with 'J' Qualifiers



**Project Name:** LMC MRC/95840ACM**Lab Number:** L1917478**Project Number:** Not Specified**Report Date:** 05/10/19

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

**Terms**

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1.8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

**Final pH:** As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

**Frozen Date/Time:** With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

**Initial pH:** As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

**PFAS Total:** With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** LMC MRC/95840ACM

**Lab Number:** L1917478

**Project Number:** Not Specified

**Report Date:** 05/10/19

## REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with NOAA Technical Memorandum NMFS-NWFSC-59: Extraction, Cleanup and GC/MS Analysis of Sediments and Tissues for Organic Contaminants, March 2004 and the Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680, EPA 01A0005295, November 1985.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certification Information

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The following analytes are not included in our Primary NELAP Scope of Accreditation:

### Westborough Facility

**EPA 624/624.1:** m/p-xylene, o-xylene

**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

**EPA 8270D:** NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

**EPA 6860:** SCM: Perchlorate

**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

### Mansfield Facility

**SM 2540D:** TSS

**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**Biological Tissue Matrix:** EPA 3050B

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The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### Drinking Water

**EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

**EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.**

#### Non-Potable Water

**SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.

**EPA 624.1:** Volatile Halocarbons & Aromatics,

**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

### Mansfield Facility:

#### Drinking Water

**EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

**EPA 522.**

#### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

**EPA 245.1 Hg.**

**SM2340B**

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For a complete listing of analytes and methods, please contact your Alpha Project Manager.







ORIGIN ID:DL0A (301) 674-3199  
HOLLY BROWN  
AECOM  
8000 VIRGINIA MANOR RD STE 110  
BELTSVILLE, MD 20705  
UNITED STATES US

SHIP DATE: 26APR19  
ACTWT: 44.10 LB  
CAD: 6990826/SSFO2002  
DIMS: 26x14x14 IN  
BILL THIRD PARTY

TO **SAMPLES RECIEVING  
ALPHA ANALYTICAL  
8 WALKUP DR**

**WESTBOROUGH MA 01581**

(608) 898-0220 REF:  
INVT: DEPT:  
PO:



TRK# 7868 9444 5030  
0201

**SATURDAY 12:00P  
PRIORITY OVERNIGHT  
AHS  
01581  
MA-US BOS**

**XO BBFA**

