

In-Situ Chemical Oxidation Pilot Test Documentation Report

Former Kenosha Engine Plant
5555 30th Avenue, Kenosha, Wisconsin

City of Kenosha

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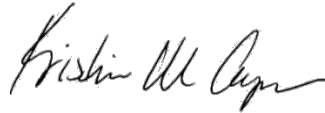
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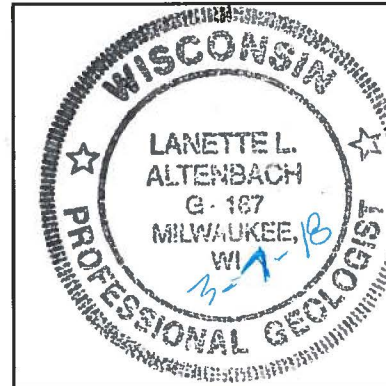
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In conformance with NR 712.09 submittal certification requirements:

I, Lanette Altenbach, hereby certify that I am a hydrogeologist as that term is defined ins. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, the information contained in this document is correct and the document was prepared in compliance with applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



Lanette Altenbach, P.G.
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I, David Henderson, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-ES, Wis. Adm. Code, and that, to the best of my knowledge, the information contained in this document is correct and the document was prepared in compliance with applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



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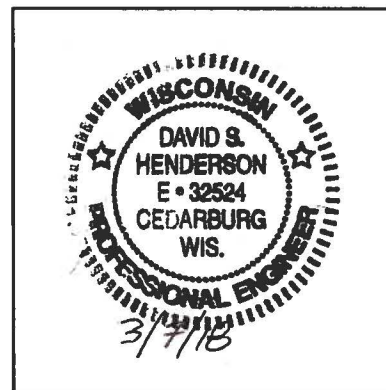


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List of Abbreviations & Acronyms

bgs	below ground surface
BOS	bottom of screen; sampling interval in temporary wells representing the deeper silt portion of the aquifer, above the clay aquitard
cm/sec	centimeters per second
bgs	below ground surface
cm/sec	centimeters/second
c-DCE	<i>cis</i> -1,2-dichloroethene
COC	contaminants of concern
DCE	dichloroethene or dichloroethylene
DO	dissolved oxygen
ES	Enforcement Standard from Wisconsin Administrative Code NR140.10, Tables 1 and 2 (February 2017)
g/kg	gram(s) per kilogram
gpm	gallons per minute
ISCO	In-situ chemical oxidation
KEP	Kenosha Engine Plant
LEL	lower explosive limit
mg/L	Milligram(s) per liter
mL/min	milliliter(s) per minute
mV	millivolts
ORP	oxidation-reduction potential
PAL	Preventive Action Limit from Wisconsin Administrative Code NR140.10, Tables 1 and 2 (February 2017)
PID	photoionization detector
ppm	parts per million
psi	pounds per square inch
QC	quality control
RAOR	Remedial Action Options Report
t-DCE	<i>trans</i> -1,2-dichloroethene
TCE	trichloroethene or trichloroethylene
TOC	total organic carbon
TOS	Top of screen; sampling interval in temporary wells representing the shallow sand (water table) portion of the aquifer
TWs	temporary monitoring wells
VC	vinyl chloride
VOCs	volatile organic compounds
WDNR	Wisconsin Department of Natural Resources
WPDES	Wisconsin Pollutant Discharge Elimination System

Executive Summary

AECOM Technical Services, Inc. (AECOM) has prepared this In-Situ Chemical Oxidation (ISCO) Pilot Test Documentation Report (Report) on behalf of the City of Kenosha (City) to summarize the methodology, procedures, and results of the ISCO Pilot Test injection activities conducted at the former Kenosha Engine Plant (KEP). The groundwater constituents of concern include petroleum and chlorinated volatile organic compounds (VOCs).

The approved Remedial Action Options Report (RAOR, AECOM, April 2015) identified in-situ chemical reduction, using ISCO, as one of the likely most technically and economically feasible alternatives to address source-area groundwater impacts at the KEP. The RAOR further specified that additional data collection and testing was necessary to evaluate the anticipated effectiveness of in-situ chemical methods and to complete a full-scale remedial design. To address these data needs, laboratory bench-scale testing and in-field pilot testing were conducted. The purpose of this document is to present the methodologies and data collected as part of those testing activities.

Fill material covers the entire KEP; the underlying native site geology consists of glacio-lacustrine sand and silt that comprises the upper or shallow aquifer unit of the water table. Beneath the sand aquifer is a clay till soil unit. The clay till unit acts as an aquitard to the deeper bedrock aquifers due to its low permeability, low hydraulic conductivity, moderate thickness, density, and regional extent.

The water table at KEP typically occurs at a depth of eight to 11 feet below ground surface (bgs) and generally flows eastward across the KEP. Horizontal hydraulic gradients ranged from 0.002 to 0.01 in the shallow sand portion of the aquifer and 0.002 to 0.008 in the deeper silt portion of the aquifer. The hydraulic conductivity is approximately 10^{-2} centimeters/second (cm/sec) in the upper sand portion of the unconsolidated aquifer (water table) and 10^{-3} cm/sec to 10^{-4} cm/sec in the deeper silt portion of the unconsolidated aquifer.

AECOM submitted an Injection Request to the WDNR on October 24, 2016, for performance of the pilot test injection activities. The request included a temporary exemption, pursuant to s. NR 140.28(5), approval to inject materials under s. NR 812.05, and a Wisconsin Pollutant Discharge Elimination System (WPDES) permit application. The WPDES application was for coverage under the WPDES general permit for Discharge of Contaminated Groundwater from the Remedial Action Operations (WI-0046566-6). The temporary exemption and coverage under the general WPDES permit was approved by the WDNR on December 2, 2016.

The pilot test injection activities were completed in December 2016 in an area of the KEP with documented chlorinated VOC groundwater impacts. Prior to conducting the pilot test, six temporary monitoring wells were installed at varying distances from proposed injection locations to serve as pilot test monitoring points. Three existing monitoring well/piezometers locations were also utilized as monitoring points.

AECOM retained Redox Tech, LLC (Redox Tech) of Chicago, Illinois, to conduct the test injections and prepare and apply the solution through injection points installed by direct-push methodology.

The sodium permanganate was delivered in a 250 gallon tote, mixed on-site with water in a batch-mix/feed tank, and applied to the subsurface as an aqueous solution. Potable water for the solution was provided by the City of Kenosha and stored in a polyethylene water storage tank supplied by Redox Tech. The solution was applied using a direct-push Geoprobe™ 66100T drilling rig and 1.25-inch inner diameter rods equipped with a disposable tip. The solution was pressure injected using a non-metallic diaphragm pump. Solution injection rate and injection pressure were monitored with a flow meter and pressure gauge. Ancillary injection equipment included chemical-resistant hoses, valves, an air compressor, a generator, miscellaneous hand tools, and personal protective equipment, including chemical-resistant gloves, Tyvek coveralls and booties, hard hats, and face shields.

After each injection point was completed, the borehole was abandoned by filling with bentonite chips to the ground surface. The bentonite chips were hydrated after placement in the borehole.

A comparison of groundwater concentrations prior to and following the pilot test document that the selected oxidant chemistry was effective in reducing contaminant mass at most locations within the pilot study area. Significant COC concentration reductions were documented one month following the pilot injection activities (January 2017). Although rebound occurred in some wells, based on groundwater results approximately three months following injection (March 2017), concentrations at those wells remained significantly below the baseline concentrations.

The resulting overall average COC molar mass decrease between the baseline and March 2017 monitoring events was 31%. As with the results from the January 2017 sampling event, the most significant decreases were in wells screened with in the deeper silt portion of the aquifer (averaging 49% molar mass reduction), with lesser reductions in the shallow sand portion of the aquifer (averaging 18% molar mass reduction). As noted above, COC concentrations in temporary wells IC01-TW-SE5 and IC01-TW-SE7.5, located 13.25 and 15.75 feet, respectively, from the nearest injection point reported little overall changes, indicating that localized subsurface obstructions may have interfered with oxidant distribution via the injection method.

Flexibility needs to be considered when designing a full scale remedy due to the following:

- There may be multiple source areas in varying geology and subsurface conditions.
- The existence of potential subsurface features may alter the distribution of chemicals.
- Multiple phases of soil remediation have recently been conducted at the KEP. These activities may have changed the subsurface soil conditions, which may influence oxidant distribution.
- There is the potential that oxidation may mobilize metals in the aquifer.
- Multiple injections may be necessary to achieve remedial goals.

1. Introduction

AECOM Technical Services, Inc. (AECOM) has prepared this In-Situ Chemical Oxidation (ISCO) Pilot Test Documentation Report (Report) on behalf of the City of Kenosha (City) to summarize the methodology, procedures, and results of the ISCO Pilot Test injection activities conducted at the former Kenosha Engine Plant (KEP). The groundwater constituents of concern include petroleum and chlorinated volatile organic compounds (VOCs).

The KEP is located in southeast ¼ of the southeast ¼ of Section 36, Township 2 North, Range 22 East (Figure 1). The KEP includes approximately 100 acres of land and is located at 5555 30th Avenue in the City of Kenosha, Kenosha County, Wisconsin. The property is currently vacant. Site-wide soil remediation (source removal) activities were initiated in October 2016 and are ongoing. The site layout, investigation areas, monitoring well locations, and the pilot test study area are shown in Figure 2.

This report provides background information concerning the subject property, Site conditions pertinent to groundwater remediation, and description of ISCO pilot testing activities.

1.1 Project Participants

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1.2 Purpose

The approved Remedial Action Options Report (RAOR, AECOM, April 2015) identified in-situ chemical reduction, using ISCO, as one of the likely most technically and economically feasible alternatives to address source-area groundwater impacts at the KEP¹. The RAOR further specified that additional data collection and testing was necessary to evaluate the anticipated effectiveness of in-situ chemical methods and to complete a full-scale remedial design. To address these data needs, laboratory bench-scale testing and in-field pilot testing were conducted. The purpose of this document is to present the methodologies and data collected as part of those testing activities.

¹ Enhanced reductive dechlorination was also identified as a technically and economically-feasible alternative. A pilot study for this alternative was performed in another part of the KEP site and will be reported separately.

1.3 Background

Historic operations at the KEP included complete automobile manufacturing and assembly, while more recent operations focused on the manufacture of automotive engines. Historically, releases that occurred as a result of manufacturing operations were reported by the site operator at the time of the release(s).

Specific areas of the KEP were investigated in the 1990's after auto assembly operations were discontinued and prior to demolition of buildings (known as the "main plant") that were not being used or reconfigured for on-going engine manufacturing operations. Limited areas of remediation were also conducted immediately prior to or during the 1990's demolition activities.

From 1999 to 2000, a new motor manufacturing facility was constructed in the southeastern part of the KEP site over portions of the razed main plant buildings. In 2009, the former owner declared bankruptcy and in 2010 engine manufacturing operations ceased. The facility was liquidated (equipment sold at auction) as part of the bankruptcy process and the remaining KEP buildings were demolished in 2013.

During the 2013 demolition activities, the building floors and pavement areas were retained to act as a temporary cap. Phase I and Phase II Environmental Site Assessments were conducted by the City of Kenosha, prior to the property's abandonment under the bankruptcy court order.

Subsequently, a site investigation was completed in 2014 in general conformance with NR 716, Wis. Adm. Code (AECOM, March 2015). In October 2016, KEP remedial activities were initiated with excavation of impacted soil. Portions of the former building floors were removed to facilitate access to impacted soils; however, the building floor in the ISCO pilot test area was retained until after the pilot test was completed.

The KEP had five groundwater recovery systems that maintained the contaminant plumes within the property boundaries. Two of the systems were discontinued in April 2015 because soil remediation was conducted in the areas and groundwater containment was no longer necessary. Subsequent perimeter monitoring confirmed that the systems were not needed. The remaining three systems are located in the northeast corner, the southeast corner, and in the center of the KEP (investigation areas CS7, CS10, and CS4, respectively; see Figure 2). These remaining systems do not influence groundwater flow in the ISCO pilot test area (investigation area CS3; Figure 2).

1.3.1 Geology

Fill material covers the entire KEP; the underlying native site geology consists of glacio-lacustrine sand and silt that comprises the upper or shallow aquifer unit of the water table. Beneath the sand aquifer is a clay till soil unit. The clay till unit acts as an aquitard to the deeper bedrock aquifers due to its low permeability, low hydraulic conductivity, moderate thickness, density, and regional extent. A detailed description of the lithology encountered in the vicinity of the ISCO pilot study area includes the following:

- The fill layer generally consists of clay, sand, silt, crushed gravel, and in some areas foundry sand. The fill ranges in thickness from approximately 1.5 to 18.5 feet, with an average thickness of 7 to 9 feet.
- Silty Clay/Clayey Silt - a discontinuous thin layer of fill material generally consisting of silty clay and clayey silt underlies the fill unit described above. This layer is generally described as very dark brown to black, dry to moist, slightly-cohesive, low-plasticity, and soft.
- Sand/Silty Sand - this generally consists of a brown, dry to wet, loose to dense fine sands and silts and generally comprises the shallower portion of the unconsolidated aquifer.
- Silt/Clayey Silt - a discontinuous layer of lacustrine silt and/or clay separates the fine sand aquifer from the glacial clay till below. This lacustrine layer is generally described as grayish brown, wet, cohesive, medium plasticity, and firm to stiff and generally comprises the deeper portion of the unconsolidated aquifer.

- Clay till - a glacial till layer, which consists of dark gray, wet, cohesive, plastic, and hard clay with stones. As noted above, this unit comprises an aquitard, due to its low transmissivity.

1.3.2 Hydrogeology

The water table at KEP typically occurs at a depth of eight to 11 feet below ground surface (bgs). Groundwater generally flows eastward across the KEP. Variations of groundwater flow to the east-northeast and east-southeast in both the upper portion of the unconsolidated aquifer (water table) and lower portion of the unconsolidated aquifer (silt/sandy silt portion of the aquifer, just above the clay till aquitard) occur under the influence of the three operating groundwater recovery systems. Seasonal variation is generally not observed, likely due to the fact that the recovery systems have a greater local influence. The groundwater flow direction in the vicinity of the ISCO pilot test area is generally to the east-northeast. Figure 3 shows the groundwater table potentiometric surface (upper sand portion of the unconsolidated aquifer) and Figure 4 shows the potentiometric surface within the deeper silt portion of the unconsolidated aquifer, above the clay till aquitard.

In 2014, from the site investigation, horizontal hydraulic gradients at the KEP ranged from 0.002 to 0.01 in the shallow sand portion of the aquifer and 0.002 to 0.008 in the deeper silt portion of the aquifer. The hydraulic conductivity is approximately 10^{-2} centimeters/second (cm/sec) in the upper sand portion of the unconsolidated aquifer (water table) and 10^{-3} cm/sec to 10^{-4} cm/sec in the deeper silt portion of the unconsolidated aquifer. The average linear velocity of groundwater across the KEP is approximately 175 feet per year² in the shallow sand portion of the aquifer (at the water table) and approximately 30 feet per year in the deeper silt portion of the aquifer (near the clay till interface).

Vertical gradients are generally low, ranging from 0.001 to 0.1) and generally downward, although some upward gradients occurred intermittently, likely due to recharge events and other natural influences.

1.4 Extent of Groundwater Contamination

Groundwater impacts are present in the shallower sand (water table) portion of the aquifer as well as in the deeper silt portion of the aquifer, just above the clay till aquitard. Three source areas of trichloroethene (TCE) contamination have been identified in soil and groundwater in CS3, CS5, and at the northeastern boundary of CS4 extending into CS8. Figure 3 illustrates the extent of chlorinated volatile organic compounds at the water table as of December 2014. Figure 4 depicts the extent of the deeper groundwater plume in the KEP piezometers (wells screen at the base of the sand/silt aquifer, just above the clay till aquitard) as of December 2014. Figure 5 depicts the extent of the groundwater CVOC impacts in both the shallower and deeper portions of the aquifer as well as TCE isoconcentrations in groundwater. The approximate location of the ISCO pilot test area is depicted on each of these figures.

1.5 Potential Receptors

Potential exposures to receptors include vapor intrusion, direct contact to contaminated soils, and inhalation of contaminated soil/dust. Residential properties located west of the Site are hydraulically up-gradient of the area of known impact. Direct contact is not currently an exposure pathway of concern because soil remediation activities have been completed on the western portion of the Site and areas with residual impacted have been temporarily capped with clean soil and/or crushed concrete. In addition, the eastern portion of the Site is currently covered with concrete building floors and asphalt pavement. The entire Site remains enclosed by a chain-link fence.

Potential contaminant migration pathways include vapor migration through the subsurface and via groundwater transport. The USEPA conducted a subsurface vapor migration study in September 2011,

² Note that the average linear groundwater velocity in the vicinity of MW-63 is significantly higher than the KEP average as a result of past soil remediation and continued groundwater recovery activities, and are therefore excluded from calculations for the KEP average.

the results of which were provided to the WDNR. The vapor study included collection of samples in the areas representing these potential pathways, as well as other areas surrounding the KEP. Impacts to the residents were not identified during the USEPA study.

Subsurface utilities, such as storm sewer and sanitary sewer lines, are also potential contaminant migration pathways for groundwater and where the utilities are above the water table, vapor migration.

There are two main "artery" storm sewers on Site. The northern two-thirds of the KEP site drain into a 48-inch diameter storm sewer that runs north-south through the center of the Site. The sewer leaves the Site at 52nd Street approximately mid-way between 26th and 28th Avenues. The southern one-third of the KEP site drains to a 42-inch storm sewer that drains southwest and leaves the Site at the 2700 West 60th Street. A small portion of storm water flow drains to the east, down 56th Street. It is assumed that storm sewers ultimately discharge into Lake Michigan.

The KEP is served by the City of Kenosha municipal water supply and sanitary sewer. Municipal water and sanitary sewers are present in the streets surrounding the KEP. The municipal water supply to the Site has been disconnected at the property boundaries when the buildings were razed in 2013. Similarly, the sanitary sewer connections were disconnected in 2013 except for the three discharge locations for hte groundwater recovery systems which are located on the north side of the Site at 52nd Street, on the east side of the Site at 54th Street and at the southern end of the Site to 60th Street. The City uses water from Lake Michigan for its potable water supply.

2. Treatability Study Summary

In May 2015 a laboratory treatability study was conducted on saturated soils from the Site to aid in the selection of the appropriate oxidant chemistries for use during the field pilot study. The result of the study was originally presented in the report, *Laboratory Scale Treatability Study Results* (AECOM, September 2015), which is provided for reference in Appendix A (with copies of the laboratory analytical reports in electronic format).

2.1 Treatability Study Methodology

ORIN Remedial Technologies, LLC (ORIN) was selected to complete the treatability study. ORIN evaluated five potential oxidant treatment chemistries: alkaline persulfate; sodium persulfate with an iron activator, alkaline persulfate with a calcium peroxide activator, sodium permanganate, and RegenOx™. The goal of the treatability study was to provide data for use in evaluating which chemistry would be the most effective for the site-specific subsurface and aquifer-material characteristics. Using Site soil and groundwater for treatability testing incorporates the chemical demands for target contaminants (primarily chlorinated VOCs) as well as the chemical oxidant demands created by the naturally-occurring organic and inorganic materials.

Treatability study samples were collected in May 2015 and the study was conducted from May to June 2015 using soil from five soil borings (CS3-TX-1 through CS3-TX-5) and groundwater from six monitoring wells (MW-61, PZ-61, MW-74, PZ-74, MW-302, and PZ-302) and one temporary monitoring well (CS3-TX-3).

2.2 Treatability Results

Results and discussion of the treatability study was documented in the *Laboratory Scale Treatability Study Results* (AECOM, September 2015; Appendix A). The treatability study concluded that sodium permanganate was the most effective of the five treatment chemistries tested to reduce chlorinated VOCs. Although stronger oxidants are available, permanganate's ability to persist in the saturated zone was a desirable characteristic of the oxidant. Based on the testing performed, a chemical loading rate of three grams treatment chemistry per kilogram of soil (g/kg) was selected for the field pilot test.

3. ISCO Pilot Testing

The ISCO pilot test activities were completed over seven months with the collection of baseline groundwater data in September 2016, completion of ISCO injections in December 2016, and collection of post injection groundwater samples in January and March, 2017. A summary of the pilot test activities including work planning and permitting are provided below with a detailed discussion in subsequent sections of this report.

3.1 Work Plan

A *Groundwater Pilot Test Work Plan* (Work Plan, AECOM, October 2015) was prepared to provide details regarding the design and implementation of the ISCO pilot study and the associated performance monitoring activities. The Work Plan was reviewed by the WDNR and EPA. As part of EPA's review, the Work Plan was forwarded to the EPA Ground Water Technical Support Center (Technical Support) for review and comments. Technical Support documented their review comments in a memorandum dated January 14, 2016. A response to comments letter with minor changes to the ISCO portion of the pilot test was prepared and submitted to the WDNR and EPA on July 18, 2016. WDNR and EPA approved the Work Plan on August 18, 2016 and August 22, 2016, respectively.

3.2 Permitting

AECOM submitted an Injection Request to the WDNR on October 24, 2016, for performance of the pilot test injection activities. The request included a temporary exemption, pursuant to s. NR 140.28(5), approval to inject materials under s. NR 812.05, and a Wisconsin Pollutant Discharge Elimination System (WPDES) permit application. The WPDES application was for coverage under the WPDES general permit for Discharge of Contaminated Groundwater from the Remedial Action Operations (WI-0046566-6).

The temporary exemption and coverage under the general WPDES permit was approved by the WDNR on December 2, 2016 (Appendix B).

3.3 ISCO Pilot Testing Methodology

The ISCO pilot test was conducted to:

- Confirm that site-specific aquifer characteristics were suitable for ISCO injections, and
- Provide data necessary to design and optimize a full-scale remediation.

The pilot test injection activities were completed in December 2016 in an area of the KEP with documented chlorinated VOC groundwater impacts (see Figures 3, 4, and 5). Prior to conducting the pilot test, six temporary monitoring wells were installed at varying distances from proposed injection locations to serve as pilot test monitoring points. Three existing monitoring well/piezometers locations were also utilized as monitoring points.

3.3.1 Temporary Monitoring Well Installation

Six temporary monitoring wells (TWs) IC0 1-TW-SE5, IC0 1-TW-SE7.5, IC0 6-TW-NE5, IC06-TW-NE7.5, IC07-TW-NE10, and IC07-TW-SE10 were installed in September 2016. In general, the TWs were installed down- and side-gradient of the planned injection locations. The actual distances from the nearest injection points varied slightly from those specified in the Work Plan due to the need to relocate the injection points to avoid existing building foundations. Actual distances of the TW's from the nearest injection location ranged from 5.25 feet to 15.75 feet, versus the planned 5 feet to 10 feet. Figure 6 depicts the layout of the TW's and their locations relative to the final injection point locations as well as the nearby existing monitoring wells and piezometers sampled during the pilot test.

The TWs were installed and developed in general conformance with NR 141 with a variance for a longer screen length and shorter filter packs to accommodate the pilot test objectives and Site conditions. The TWs were installed with longer screens to monitor both the groundwater quality near the water table and at the base of the target aquifer, just above the clay till. The TWs have a two-inch diameter, 15-foot long 0.010-inch factory slotted PVC screen installed at the top of the clay till aquitard (19 to 22 feet bgs). The filter pack was placed level with the top of the screen and one-foot of fine sand was placed as a filter pack seal. The remaining well annulus was sealed with bentonite chips and hydrated. The temporary wells were developed after installation. Fluids generated during development were disposed in the on-Site central remediation building for treatment and discharge to the sanitary sewer under the existing permit.

Soil boring logs, well construction forms, and well development records for the temporary wells are provided in Appendix C.

3.3.2 Baseline Groundwater Monitoring and Sampling

Baseline groundwater samples were collected from three monitoring wells (MW-302, MW-317, and MW-354), three piezometers (PZ-302, PZ-317, and PZ-354), and six temporary monitoring wells (described above) in September 2016 to assess the concentrations of dissolved-phase contaminants of concern (COCs) and establish baseline concentrations to compare the results of ISCO pilot testing.

Before sampling, AECOM collected depth-to-groundwater measurements groundwater flow direction and gradient evaluation. Depth to water was measured using an audible water level indicator and measurements were referenced to the top of the surveyed well casing at each monitoring point. Groundwater measurements and elevations for the sampling events are provided in Table 1.

Monitoring wells were purged before sample collection. Monitoring wells were purged at a low-flow rate using a peristaltic pump. New tubing was used at each well location. The wells were purged at a pumping rate of less than 500 milliliters per minute (mL/min). Groundwater field measurements, including temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) were measured at approximate five-minute intervals using a portable water quality meter (YSI-556) with a flow-through cell. After groundwater field parameters stabilized to within a 10 percent variation for three consecutive measurement intervals, groundwater samples were collected at the low-flow sampling rate of 250 mL/min or less as required to purge the groundwater without a drop in the water level.

Groundwater samples were collected in laboratory-supplied glass bottles containing preservatives, as appropriate. Samples intended for dissolved iron and dissolved manganese analyses were filtered prior to collection. (Samples intended for barium, chromium, lead, and nickel were not filtered.) Duplicate samples and a trip blanks were also submitted for analysis for quality control (QC) purposes. One duplicate sample was collected for every ten groundwater samples and one trip blank was collected during the sample event. The samples were placed on ice in an insulated rigid cooler and delivered with completed chain-of-custody forms to Pace Laboratories of Green Bay, Wisconsin. Samples collected in September 2016 were analyzed for VOCs, metals (barium, chromium, dissolved iron, lead, manganese, and nickel), chloride, sulfate, and total organic carbon (TOC).

Decontamination fluids and monitoring well purge water were treated in the on-Site central remediation building and discharged to the sanitary sewer under the existing permit.

3.4 Pilot Test Equipment

3.4.1 Monitoring Wells and Temporary Monitoring Wells

Two monitoring wells (MW-302 and MW-317), three piezometers (PZ-302, PZ-316, and PZ-317), and six temporary wells (IC01-TW-SE5, IC01-TW-SE7.5, IC06-TW-NE5, IC06-TW-NE7.5, IC07-TW-NE10, and IC07-TW-SE10) were used to collect performance data as part of the pilot testing activities. Water levels were monitored in selected wells/piezometers near the injection activities to evaluate the localized

influence injection activities had on the water table. Following the injection activities, real-time field measurements (groundwater temperature, pH, conductivity, ORP, DO, and depth to water) were measured in selected wells/piezometers to evaluate the effects of the injection activities on groundwater levels and on groundwater geochemistry. In the temporary wells, samples were collected from both the top (just below the top of water table) and bottom of the 15 foot well screens to evaluate the shallow and deep groundwater conditions at each location. Note that monitoring well MW-354 and piezometer PZ-354, located approximately 100 feet up-gradient from the pilot injection area, were excluded from the monitoring scope because they were abandoned prior to the field injection activities as part of other Site remedial activities.

3.4.2 Chemical Oxidant Solution Mix Design

The oxidant solution was selected based on the dosing estimates derived from the treatability study results (Appendix A). The treatability study concluded that sodium permanganate was the most successful treatment chemistry for the destruction of TCE and its associated daughter products. The average total oxidant demand for the on-Site soil was 2.2 g/kg, requiring 3 g/kg of sodium permanganate for successful treatment of target constituents. Based on this recommendation, the initial design mix included sodium permanganate (40% by weight) mixed with potable water to create a 3% by weight solution.

3.4.3 Injection Equipment

AECOM retained Redox Tech, LLC (Redox Tech) of Chicago, Illinois, to conduct the test injections and prepare and apply the solution through injection points installed by direct-push methodology. Before injection, Digger's Hotline (One Call) was called to mark public utilities and a private utility locating service was retained to mark private utilities in the pilot test area.

The sodium permanganate was delivered in a 250 gallon tote, mixed on-Site with water in a batch-mix/feed tank, and applied to the subsurface as an aqueous solution. Potable water for the solution was provided by the City of Kenosha and stored in a polyethylene water storage tank supplied by Redox Tech. The solution was applied using a direct-push Geoprobe™ 66100T drilling rig and 1.25-inch inner diameter rods equipped with a disposable tip. The solution was pressure injected using a non-metallic diaphragm pump. Solution injection rate and injection pressure were monitored with a flow meter and pressure gauge. Ancillary injection equipment included chemical-resistant hoses, valves, an air compressor, a generator, miscellaneous hand tools, and personal protective equipment, including chemical-resistant gloves, Tyvek coveralls and booties, hard hats, and face shields.

After each injection point was completed, the borehole was abandoned by filling with bentonite chips to the ground surface. The bentonite chips were hydrated after placement in the borehole.

3.4.4 Monitoring Equipment

Groundwater field parameters (temperature, pH, conductivity, ORP, and DO) were measured in monitoring wells, piezometers, and TWs using a water quality meter (YSI-556). A Heron audible water level indicator was used to measure water levels in monitoring wells, piezometers, and TWs to observe fluctuations in groundwater levels during injection. Permanganate concentrations in monitoring points were measured by testing groundwater samples using a CHEMetrics™ sodium permanganate field test kit with a detection range of 0 to 70 parts per million (ppm).

For health and safety purposes, a multi-gas monitor equipped with the following sensors: oxygen, carbon dioxide, lower-explosive limit, hydrogen sulfide, and a photoionization detector (PID) equipped with a 10.6 electron-volt lamp, were used to monitor air quality in the breathing zone during injection activities.

3.5 Pilot Test Procedures and Results

3.5.1 Baseline Monitoring Well Sample Results

Groundwater samples were collected in September 2016 to establish baseline concentrations for pilot testing. Depth-to-water measurements were collected prior to sampling and are included in Table 1, along with historic water level data. Field parameters measurements are provided in Table 2. Groundwater samples were analyzed for VOCs, metals (barium, chromium, dissolved iron, lead, manganese, and nickel), and general chemistry (chloride, sulfate, and TOC). Laboratory analytical results are summarized in Table 3 (VOCs), Table 4 (metals), and Table 5 (general chemistry parameters). The laboratory analytical reports are provided in Appendix D.

Baseline groundwater flow in the ISCO pilot test area was generally to the east with a gradient of approximately 0.0012 (between MW-354 and MW-317) in the shallow sand portion of the aquifer and 0.0013 (between PZ-354 and PZ-317) in the deeper silt portion of the aquifer. The vertical gradient averaged 0.003 among the three monitoring well/piezometer well nests in the ISCO pilot test area. Both the horizontal and vertical gradients measured during the baseline monitoring event are consistent with historic results.

Field parameter measurements were relatively consistent among the monitored wells. The pH averaged 6.9 standard pH units, with the pH in the piezometers slightly higher (averaging 7.25). ORP was negative in all wells except PZ-354 (up-gradient from the ISCO pilot test area) and PZ-317 (down-gradient from the ISCO pilot test area). Conductivity averaged 1.8 $\mu\text{S}/\text{cm}$ and DO was below 1 milligram per liter (mg/L) in all wells.

TCE and/or its associated daughter products (*cis*-1,2-dichloroethene [c-DCE], *trans*-1,2-dichloroethene [t-DCE] and vinyl chloride [VC]) were reported at concentrations above the NR141 Enforcement Standards (ES)³ in all of the ISCO test area wells except PZ-354 (up-gradient from the ISCO pilot test area) and PZ-317 (down-gradient from the ISCO pilot test area).

Barium, manganese, nickel², and iron⁴ were reported in all the baseline samples; however, only iron and manganese were consistently above the NR140 ES. Chromium was below detection limits in samples from all but five sampling locations. Where chromium was detected, the concentrations were near the method detection limit and well below the NR140 criteria. Lead was below detection limits in samples from four sampling locations. Where lead was detected, the concentrations were well below NR140 criteria.

Chlorides and sulfate³ were reported in all samples; most concentrations were above NR140 preventive action limits (PALs) or ESs. TOC was negligible, averaging approximately 11 mg/kg across the ISCO pilot test area, and was below detection limits in PZ-354 (up-gradient from the ISCO pilot test area) and PZ-317 (down-gradient from the ISCO pilot test area)

3.5.2 Pre-Injection Groundwater Elevation Monitoring

On December 5, 2016, prior to the initiation of pilot test injections, AECOM collected depth-to-groundwater measurements at each of the monitoring locations. Groundwater elevations in all wells were approximately 0.6 to 0.7 feet higher than during the September baseline sampling event. The gradients and flow direction were consistent with the baseline and historic sampling events.

3.5.3 Injection Procedures and Monitoring

Oxidant solution was injected into eight temporary injection points (IC01 through IC0B), which were installed at incremental distances from the respective test area monitoring wells, piezometers, and TWs to

³ Wisconsin Administrative Code ch. NR140 Table 1, Public Health Groundwater Quality Standards

⁴ Wisconsin Administrative Code ch. NR140 Table 2, Public Welfare Groundwater Quality Standards

evaluate the effective injection spacing. The injection point layout was modified from the Work Plan (AECOM, September 2015) because of the presence of existing building foundations. Figure 6 depicts the layout of the TWs and their locations relative to the final injection point locations.

Injection activities were initiated on December 5, 2016 and concluded on December 13, 2016. The ambient temperature on December 5, 2016, the first day of the pilot test was 32°F and warmed to a high of 38°F. On the fourth day of the pilot test (December 8, 2016), the temperatures had cooled approximately 10°F for high and low temperatures. The lower temperatures caused the injectate fluids to freeze within the pumps. A torpedo heater was used to keep the pump and injectate from freezing, but the overall work-pace was slowed by the below-freezing temperatures.

3.5.3.1 Injection Methodology

The oxidant solution was injected into the subsurface using direct-push technology with injection tooling that consists of an outer casing with an expendable tip. During tooling advancement, the piping joints were sealed using Teflon® tape.

The direct-push injection tooling was advanced to the bottom of the observed saturated treatment zone (approximately 20 feet below ground surface). Once the target depth had been reached, the injection tooling was retracted one foot to expose the bottom of the outer casing. An injection pump, connected to the injection tooling, then pumped the oxidant into the exposed aquifer interval. After the prescribed volume was injected in a one-foot interval, the injection tools were raised one foot and the next one-foot interval was exposed. Injections continued in one-foot intervals until the tools reached the top of the saturated treatment zone (approximately 12 feet). Oxidant solution was injected at the minimum pressure required to maintain a solution flow rate, which was well below the permit limit of 100 psi throughout the injection event.

3.5.3.2 Injection Solution Mixture

The initial oxidant solution consisted of 79 gallons of sodium permanganate mixed in 1,300 gallons of water for each injection (3% solution). Approximately 100 gallons of the oxidant solution was injected per interval with 13 intervals per injection point at IC01, IC02, IC06, and IC05. Oxidant solution daylighting occurred while injecting at IC03, IC04, and IC07. To reduce daylighting while delivering the target oxidant load, the oxidant solution mixture was altered to 79 gallons of sodium permanganate to 1,000 gallons of water (4% solution). The remaining treatment volume for IC03, IC05, and IC07 and all of IC04 was injected using the 4% solution.

3.5.3.3 Injection Performance Monitoring

Injection performance measurements were collected during the test by Redox Tech. These measurements included injection pressure, injection flow rate, and solution volume. These data and the quantities of treatment chemistry delivered in each location are summarized in Appendix E.

Each of the eight injection points readily accepted the solution with low to moderate injection pressure. Solution flow rates ranged from approximately 3.2 gpm to 12.5 gpm, with injection pressures ranging from 20 to 60 pounds per square inch (psi). At several injection intervals, a solution flow rate of approximately 10 gpm was maintained with minimal applied pressure.

Injection times at each interval ranged from 7 to 30 minutes. Solution daylighting occurred at some locations, predominantly through and around MW-302/PZ-302, but was generally controlled by decreasing the pressure applied to 20 psi and/or amending the injectate solution concentration, as described above.

3.5.3.4 Perimeter Performance Monitoring

Perimeter performance monitoring was conducted at selected monitoring wells, piezometers, and TWs in and around the ISCO treatment area. Changes in groundwater geochemistry indicate the presence of the oxidant solution and confirm whether the injection point spacing is adequate for effective ISCO treatment.

Immediately before initiating injection activities, groundwater levels and groundwater quality measurements were measured to establish pre-injection conditions.

During injection activities, periodic measurements of depth to water and groundwater field parameters (pH, conductivity, temperature, ORP, and DO) were recorded. Permanganate concentrations in monitoring points were also measured periodically using a CHEMetrics™ sodium permanganate field test kit. Groundwater quality measurements were collected at approximate five-minute intervals. Permanganate measurements were collected periodically, based on observed field conditions. Summaries of perimeter performance monitoring data are provided in Appendix F.

3.5.3.5 Injection Point Abandonment

Following completion of the injection activities, each temporary injection point was abandoned with granular bentonite. Copies of the abandonment forms are included in Appendix C.

3.5.4 Environmental and Safety Monitoring

In accordance with the WDNR requirements for in-situ chemical injection in Wisconsin, the following environmental and safety monitoring was conducted during test injection. VOC emissions from oxidant injection were monitored by visual observation and periodic multi-gas meter (including PID) measurements of the worker breathing zone. The headspace of monitoring wells and piezometers within the test area were also monitored with the multi-gas meter.

No VOCs were detected with the multi-gas meter during solution preparation or injection. PID measurements within well casings were up to approximately 80 ppm; however, VOCs were not detected in the breathing zone near the wells. Oxygen, carbon dioxide, hydrogen sulfide, and lower explosive limit measurements were all within acceptable breathing zone levels.

3.6 Post-test Groundwater Monitoring and Sampling

Approximately four weeks (January 12, 2017) and 14 weeks (March 17, 2017) after the pilot test injections, groundwater samples were collected from permanent well nests MW-302/PZ-302 and MW-317/PZ-317 along with the six temporary monitoring well locations. Post-test samples were not collected from MW-354 or PZ-354 because they were abandoned prior to the field injection activities as part of other Site remedial activities. The purpose of the sampling was to evaluate the impact of the ISCO test injections on groundwater geochemistry and VOC concentrations. Although not specified in the Work Plan, the March event was added to allow for the assessment for longer-term aquifer responses to the injection test.

Groundwater depth and field parameters were measured during both the January and March sampling events. Samples collected in January 2017 were analyzed for VOCs, metals, and general chemistry parameters. Samples collected in March 2017 were analyzed for VOCs. Wells were sampled using the same low-flow purging and sampling techniques as used during the baseline sampling.

In general, VOC concentrations decreased in most wells, with an overall average COC molar mass decrease of 31% between the baseline and March 2017 monitoring events (approximately three months). VOC concentration rebound occurred in some wells; however, the net molar COC mass remained below baseline concentrations. Generally, changes in field parameters, metals, chlorides, sulfate, and TOC correlated with the changes in VOC concentrations. In wells ICO1-TW-SE5 and ICO1-TW-SE7.5 (shallow and deeper sampling intervals), field parameters, and laboratory analytical parameters did not

appear to respond to the oxidant injections, indicating that localized subsurface obstructions may have interfered with oxidant distribution via injection.

Decontamination fluids and purge water were disposed in the on-Site central remediation building for treatment and discharge to the sanitary sewer under the existing permit.

3.6.1 Post-Injection Groundwater Levels and Field Parameters

Depth to water measurements (Table 1) and field parameter measurements (Table 2) were collected during the post-injection sampling events. Comparison of these post-injection measurements with the baseline data provides for an assessment of the effects of the injections on the aquifer. Note that due to weather (ambient temperature 5°F) and field conditions (new snow cover) immediately following the injections, the two-day post-injection measurements specified in the Work Plan were not collected.

During the January 2017 sampling event, groundwater levels were lower than immediately before injections occurred. This indicates that the aquifer was able to absorb the added injectate solution and return to normal water levels over a relatively short period of time. Residual permanganate was evident in groundwater (purple coloration) in January (PZ-302 and IC06-TW-NE5 [bottom of screen]) and in March 2017 (IC07-TW-NE10).

ORP during the January 2017 sampling was significantly higher than baseline levels in nearly all monitored locations⁵. The average ORP (all monitored points) during the January sampling event was 66 millivolts (mV), compared with -63 mV during the baseline sampling (net increase of approximately 130 mV). During the March 2017 sampling event, ORP was approximately 140 mV above baseline levels, with continued increases in about half the wells and modest decreases in the others, both within and down-gradient from the injection area. There did not appear to be any correlation between the changes in ORP and proximity to the injection area or aquifer depth zone.

DO within the injection area was generally consistent with baseline conditions, with about half the wells demonstrating moderate increases and half demonstrating moderate decreases. DO in side-gradient and down-gradient piezometers PZ-316 and PZ-317 was approximately 5 mg/L higher than baseline conditions in January and remained elevated well above baseline in March. These results may indicate that the oxidant was rapidly consumed where VOC concentrations are highest, but may persist where VOC concentrations were insufficient to consume the oxidant load.

Groundwater pH increased during the January 2017 by an average of 0.7 pH units within the injection area. Down-gradient from the injection area, the change was more modest, with MW-317 increasing by only 0.2 pH units and PZ-317 decreasing slightly (0.05 pH units). During the March 2017 sampling event, pH within the injection area continued to increase in about half of the wells and decreased slightly in the others, resulting in an average groundwater pH that remained elevated by approximately 0.8 pH units over the baseline levels. Within the down-gradient wells, pH increased in both wells, resulting in an average increase of 0.4 pH units over baseline.

Groundwater conductivity increased in nearly all wells during the January 2017 sampling event, and decreased in most wells during the March 2017 sampling event, resulting in overall results similar to baseline conditions. The average conductivity changes between sampling events was modest and did not appear to correlate with proximity to the injection area or aquifer depth zone.

Based on field parameter results, the effects of the oxidant solution injection were evident in both the January and March sampling events; however, effects were generally less pronounced during the March sampling event, indicating that the aquifer is returning to baseline conditions.

⁵ Note that the relative differences in groundwater characteristics in samples from tops and bottoms of screened intervals in TWs is likely muted by incidental mixing during pump insertion and purging.

3.6.2 Post-Injection Laboratory Analytical Results

The results of the post-injection laboratory analytical results are summarized in Table 3 (VOCs), Table 4 (metals), and Table 5 (general chemistry parameters, chloride, sulfate, and TOC). Baseline and post-injection TCE concentrations are shown in Figure 7. Baseline and post-injection concentrations of the other COCs (c-DCE, t-DCE, and VC) are shown in Figure 8. The laboratory analytical reports for the January and March 2017 post-injection sampling events are provided in Appendix D.

3.6.2.1 VOCs

Concentrations of COCs in the samples collected during the January 2017 sampling event decreased overall in comparison with the baseline sampling event. In 9 of the 15 wells, the net molar mass of COCs decreased. In these wells, the average molar COC mass reduction was 81%. In the other 6 wells, COC concentrations increased overall by an average molar mass of 48%. The concentration increases were observed in ICO1-TW-SE5 (top of screen [TOS] and bottom of screen [BOS]), ICO1-TW-SE7.5 (TOS and BOS), ICO1-TW-SE10 (TOS), and down-gradient well MW-317. In these wells, it is possible that COCs were redistributed during the injection process, resulting in apparent increases.

The average COC molar mass, including all wells within the ISCO pilot test area, decreased by 26% between the baseline and January 2017 sampling events. The most significant decrease during this period was in wells screened within the deeper silt portion of the aquifer (averaging 51% molar mass reduction), with lesser reductions in the shallow sand portion of the aquifer (averaging 13% molar mass reduction).

During the March 2017 sampling event, COC concentrations continued to decrease in most wells. Concentrations rebounded in five wells: MW-302, PZ-302, ICO6-TW-NE5 (TOS and BOX) and ICO6-TW-NE7.5 (TOS). Despite the rebound in these wells, their net molar COC mass remained below baseline concentrations, with an average molar reduction of 57%.

Concentrations in ICO1-TW-SE5 (TOS) and ICO1-TW-SE7.5 (TOS and BOS) increased following the injection activities (January sampling event) and decreased only slightly by the March sampling event, resulting in net increased COC concentrations over baseline concentrations at these wells. In the remainder of the wells, overall COC concentrations continued to decrease, including in down-gradient well MW-317, which returned to near-baseline levels.

The resulting overall average COC molar mass decrease between the baseline and March 2017 monitoring events was 31%. As with the results from the January 2017 sampling event, the most significant decreases were in wells screened within the deeper silt portion of the aquifer (averaging 49% molar mass reduction), with lesser reductions in the shallow sand portion of the aquifer (averaging 18% molar mass reduction).

3.6.2.2 Metals

Metals were analyzed during the baseline and January 2017 sampling events only. Concentrations of chromium, manganese and nickel generally increased in most wells within the injection area, whereas concentrations of barium and dissolved iron decreased in most wells. The changes in metals concentrations is typically in response to changes in ORP in the aquifer, resulting in more-oxidized metals valences or complexes that are more soluble (e.g, chromium, manganese) or less soluble (e.g., iron). These changes are expected to be temporary, returning to baseline-range concentrations, once the oxidant is consumed and the natural aquifer redox conditions return.

Generally, metals concentrations did not change in wells ICO1-TW-SE5 (TOS and BOS) and ICO1-TW-SE7.5 (TOS and BOS), correlating with VOC and field parameters results for these wells, indicating that these wells were not significantly affected by the oxidant injections.

3.6.2.3 Chloride, Sulfate, and TOC

Chloride, sulfate, and TOC were analyzed during the baseline and January 2017 sampling events only. Sulfate and TOC concentrations generally increased or remained at concentrations similar to baseline levels. Concentration increases were observed in both the shallow sand and deeper silt portions of the aquifer within the injection area. Conversely, chloride concentrations, in both the shallow sand and deeper silt portions of the aquifer, generally decreased following the pilot injection activities.

3.6.3 Well Abandonment

The six temporary wells were abandoned in accordance with Wis. Adm. Code NR 141 on April 7, 2017 to facilitate the on-going, Site-wide soil remediation activities. Abandonment forms are included in Appendix C. Monitoring wells and piezometers (MW-302, PZ-302, PZ-316, MW-317 and PZ-317) were also abandoned on April 7, 2017 in advance of soil remedial activities.

3.7 Test Data Evaluation

3.7.1 Injection Performance

Relatively high injection rates were achieved at relatively low injection pressures, indicating that the aquifer readily accepted liquid injection. The low pressures required for injecting signified that the injections can be performed using standard injection equipment; however, higher injection flow rates may not be achievable without significant pressure increase.

A 3% to 4% percent permanganate solution was successfully used for the test and would be feasible for a full-scale injection design.

In wells ICO1-TW-SE5 and ICO1-TW-SE7.5 (shallow and deeper sampling intervals), field parameters, and laboratory analytical parameters did not appear to respond to the oxidant injections, indicating that localized subsurface obstructions (i.e., former building foundations) may have interfered with oxidant distribution via the injection method.

3.7.2 Visual Observations

The visual observation of permanganate in the adjacent temporary or permanent monitoring locations provided a general indication of oxidant distribution during the injection activities. Permanganate was observed in all monitoring locations either during the December pilot test or during post-injection monitoring events. In general the permanganate concentrations recorded during the performance of the test were consistent with the visual observations with only a few exceptions. Indications of permanganate were still apparent in PZ-302 and IC06-TW-NE5 (BOS) during the January 2017 sampling event and IC07-TW-NE10 during the March 2017 sampling event.

3.7.3 CVOC Destruction

A comparison of groundwater concentrations prior to and following the pilot test document that the selected oxidant chemistry was effective in reducing contaminant mass at most locations within the pilot study area. Significant COC concentration reductions were documented one month following the pilot injection activities (January 2017). Although rebound occurred in some wells, based on groundwater results approximately three months following injection (March 2017), concentrations at those wells remained significantly below the baseline concentrations.

The resulting overall average COC molar mass decrease between the baseline and March 2017 monitoring events was 31%. As with the results from the January 2017 sampling event, the most significant decreases were in wells screened with in the deeper silt portion of the aquifer (averaging 49% molar mass reduction), with lesser reductions in the shallow sand portion of the aquifer (averaging 18%

molar mass reduction). As noted above, COC concentrations in temporary wells IC01-TW-SE5 and IC01-TW-SE7.5, located 13.25 and 15.75 feet, respectively, from the nearest injection point reported little overall changes, indicating that localized subsurface obstructions may have interfered with oxidant distribution via the injection method.

3.8 Test Conclusions

- Oxidant was effectively introduced into the subsurface at relatively low injection pressures.
- Daylighting was observed at higher injection pressures/volumes at select locations, but was generally controlled by maintaining injection pressures at or below 20 psi and/or amending the injectate solution concentration.
- Radius of oxidant injection is within range of what would be expected for the soil type and subsurface conditions.
- The oxidant reduced COC concentrations in the groundwater.

4. Considerations for Full-Scale Design

Flexibility needs to be considered when designing a full scale remedy due to the following:

- There may be multiple source areas in varying geology and subsurface conditions.
- The existence of potential subsurface features may alter the distribution of chemicals.
- Multiple phases of soil remediation have recently been conducted at the Site. These activities may have changed the subsurface soil conditions, which may influence oxidant distribution.
- There is the potential that oxidation may mobilize metals in the aquifer.
- Multiple injections may be necessary to achieve remedial goals.

5. References

AECOM February 2015, *Site Investigation Report*, Former Kenosha Engine Plant

AECOM October 2015, *Groundwater Pilot Test Work Plan*, Former Kenosha Engine Plant

USEPA January 2016, Technical Review Memorandum of the *AECOM Groundwater Pilot Test Work Plan*

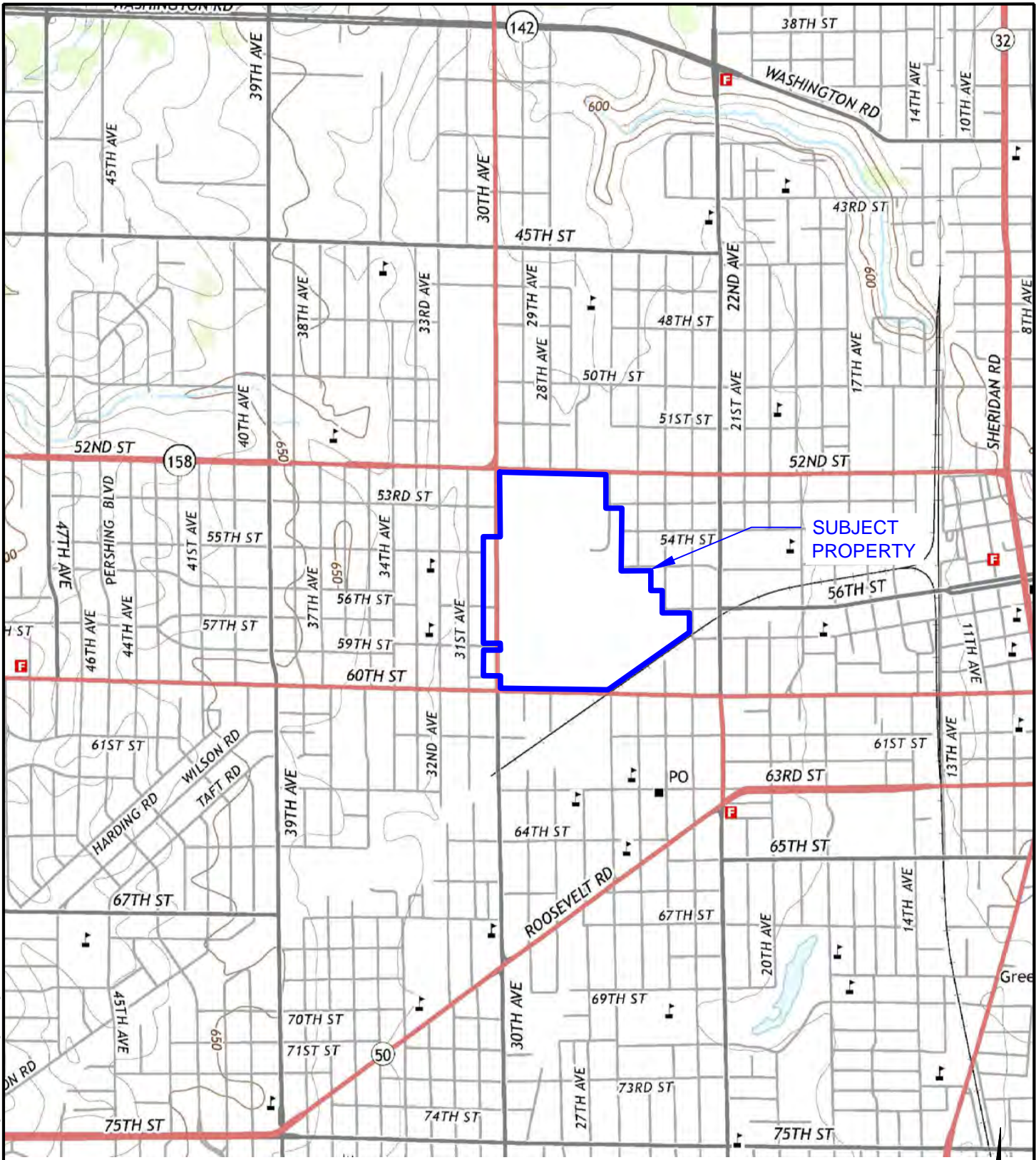
USEPA & WDNR August 2016, Letter approving Revised Groundwater Pilot Test

WDNR December 2016, Temporary Injection Exemption for the Kenosha Engine Plant

List of Figures

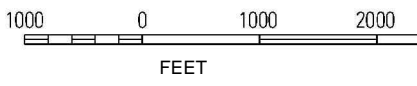
- Figure 1 Site Location
- Figure 2 Site Layout
- Figure 3 Groundwater Flow & Extent of Contamination at the Water Table, December 2014
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- Figure 6 ISCO Pilot Study Layout
- Figure 7 TCE Concentrations in Groundwater - Baseline and Post-Injection Monitoring Results
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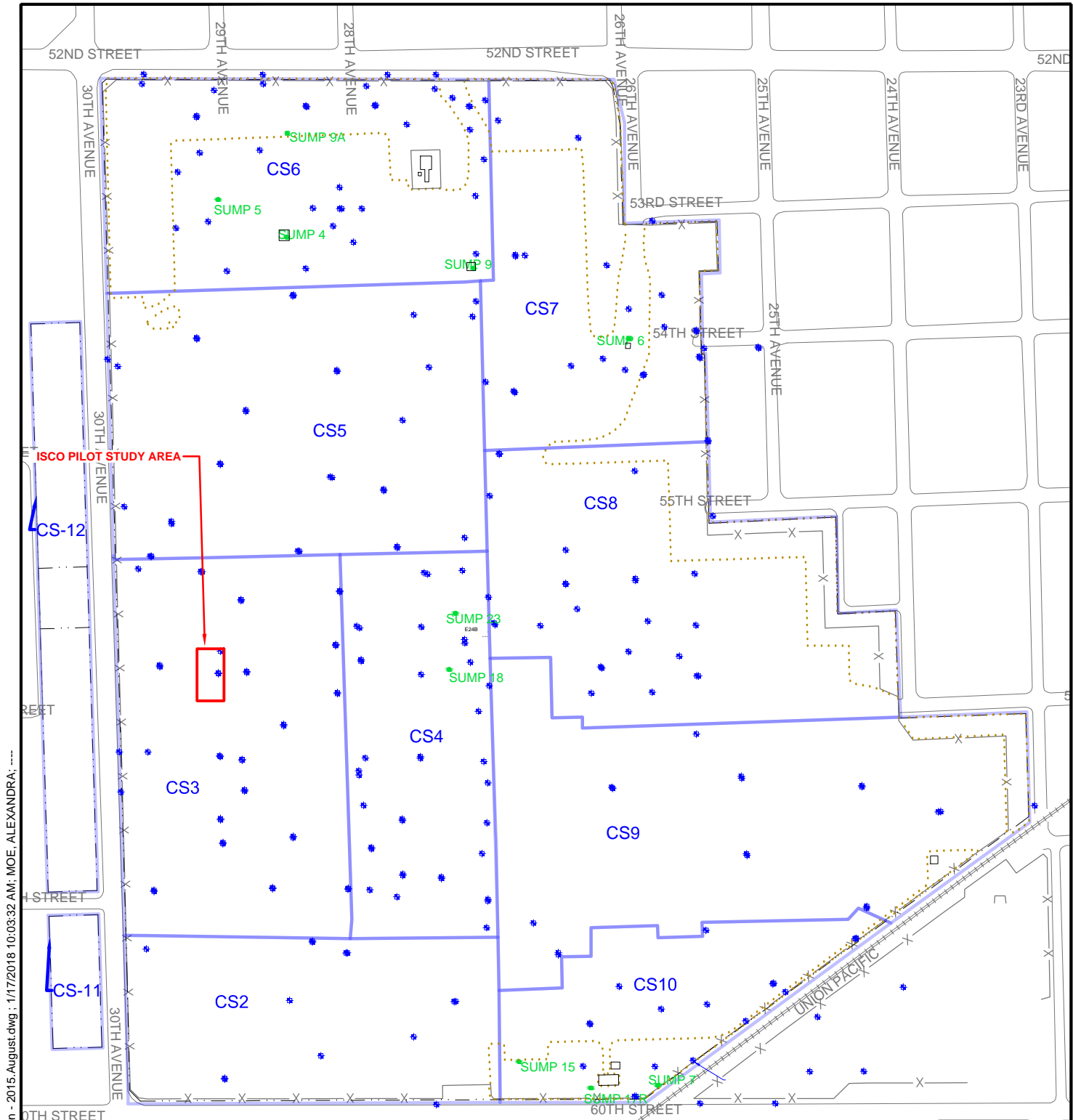
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 DATED 2013



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SITE LOCATION
 KENOSHA ENGINE PLANT
 CITY OF KENOSHA
 KENOSHA, WISCONSIN

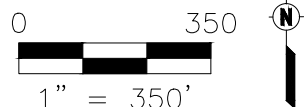
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Approved:	SP 7/7/2017
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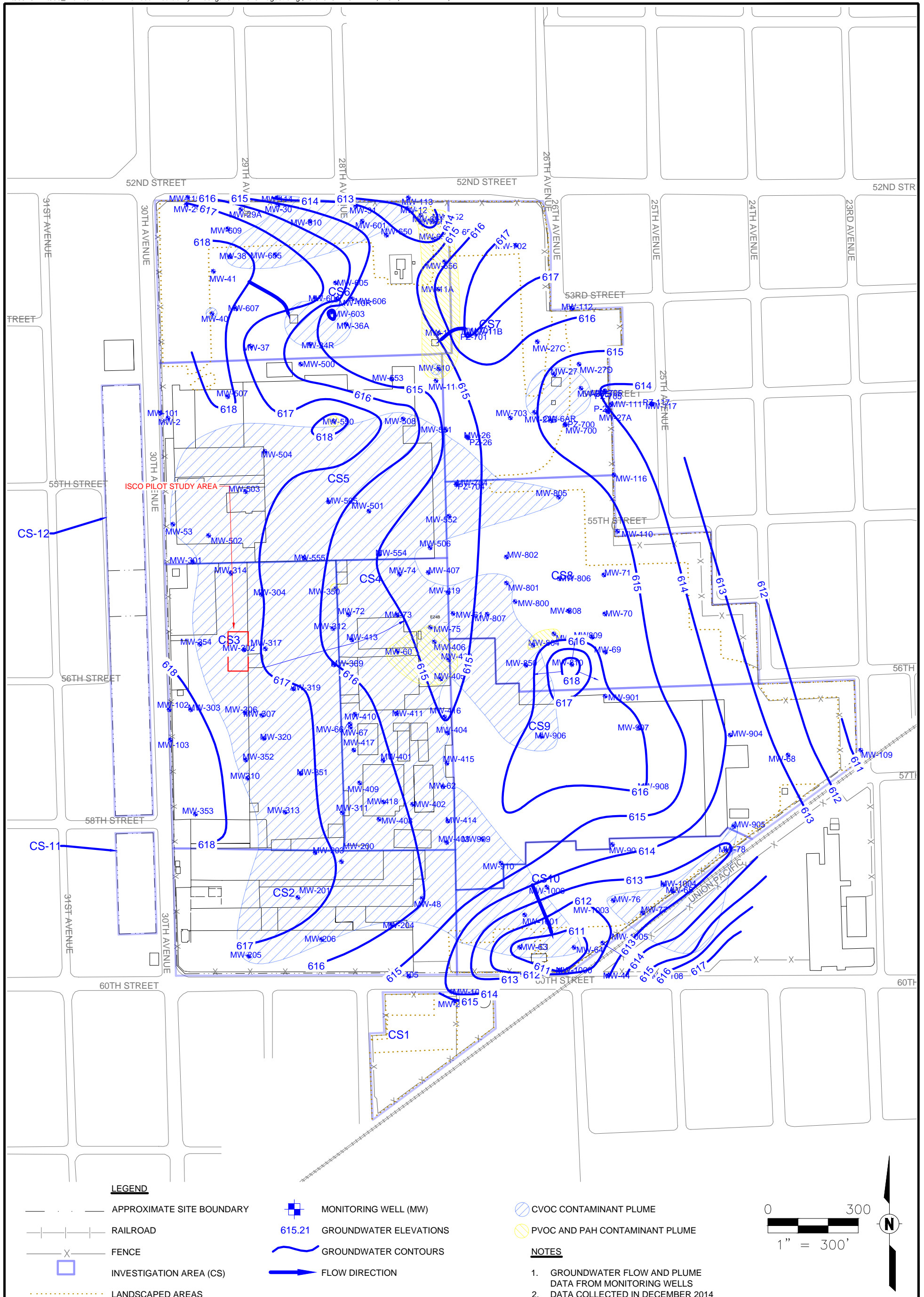
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- LANDSCAPED AREA
- INVESTIGATION AREA (CS)
- * MONITORING WELL (MW) OR PIEZOMETER (PZ)
- SUMP
- PILOT TEST LOCATION



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**SITE LAYOUT
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**

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Approved:	SP 7/7/2017
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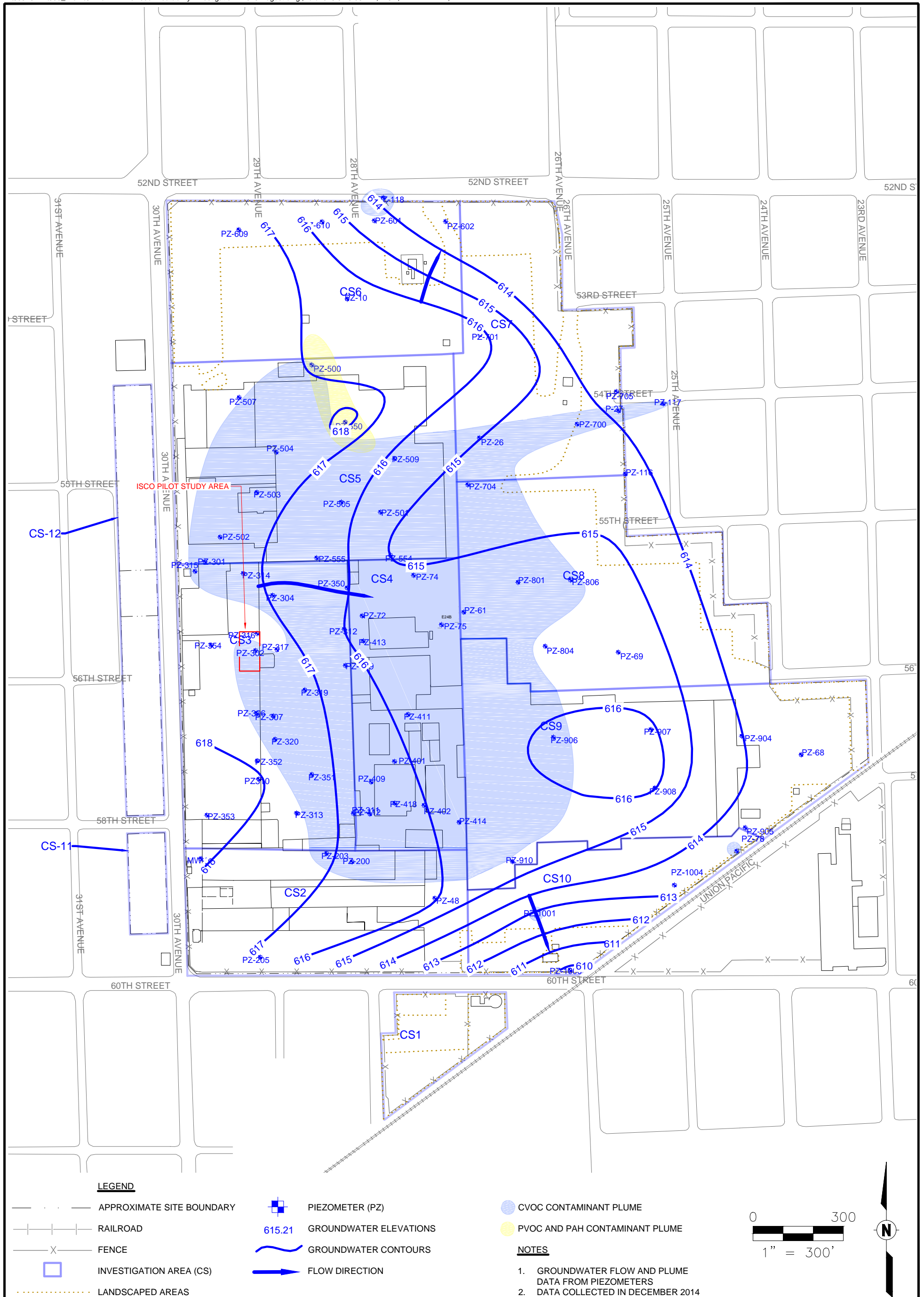


**GROUNDWATER FLOW & EXTENT OF CONTAMINATION AT THE WATER TABLE -
DECEMBER 2014
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**

Drawn : SAE 7/3/2017
Checked: LLA 7/3/2017
Approved: SP 7/7/2017
PROJECT NUMBER 60518412
FIGURE NUMBER 3

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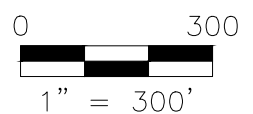
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- RAILROAD
- X- FENCE
- INVESTIGATION AREA (CS)
- LANDSCAPED AREAS

- PIEZOMETER (PZ)
- 615.21 GROUNDWATER ELEVATIONS
- GROUNDWATER CONTOURS
- FLOW DIRECTION

- CVOC CONTAMINANT PLUME
- PVOC AND PAH CONTAMINANT PLUME

NOTES

1. GROUNDWATER FLOW AND PLUME DATA FROM PIEZOMETERS
2. DATA COLLECTED IN DECEMBER 2014

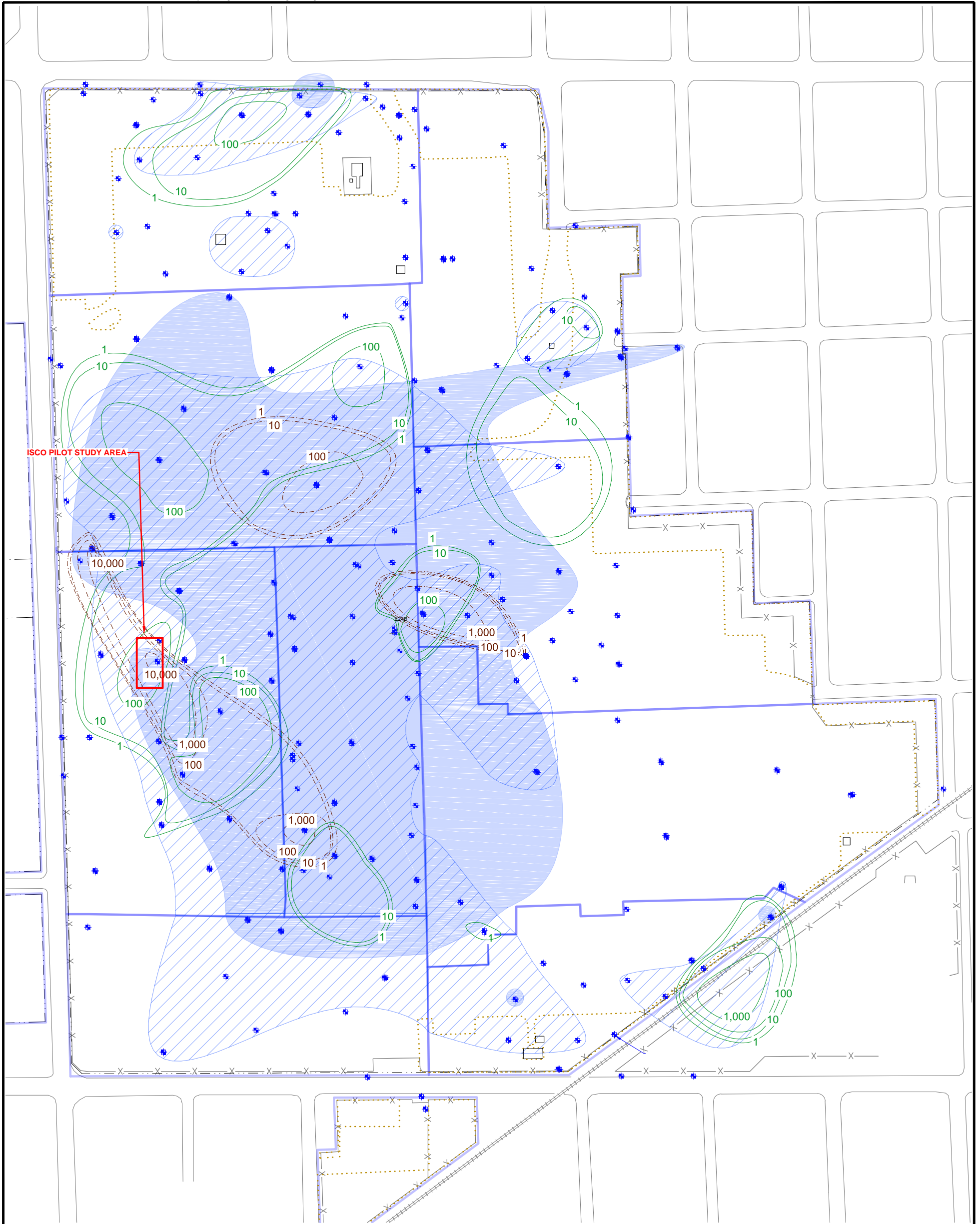


Drawn :	SAE	7/3/2017
Checked:	LLA	7/3/2017
Approved:	SP	7/7/2017
PROJECT NUMBER	60518412	
FIGURE NUMBER	4	

**GROUNDWATER FLOW & EXTENT OF CONTAMINATION ABOVE CLAY TILL AQUITARD
DECEMBER 2014
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**

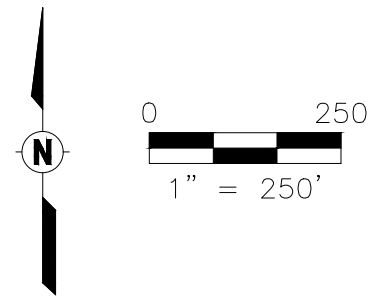
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LEGEND

- APPROXIMATE SITE BOUNDARY
- RAILROAD
- FENCE
- INVESTIGATION AREA (CS)
- ... LANDSCAPED AREAS
- MONITORING WELL (MW) OR PIEZOMETER (PZ)
- FLOW DIRECTION
- SHALLOW CVOC CONTAMINANT PLUME (December 2014)
- DEEP CVOC CONTAMINANT PLUME (December 2014)
- SHALLOW TRICHLOROETHENE (TCE) ISOCONCENTRATION CONTOURS (CONCENTRATIONS IN UG/L) (September 2014)
- DEEP TCE ISOCONCENTRATION CONTOURS (CONCENTRATIONS IN UG/L) (September 2014)

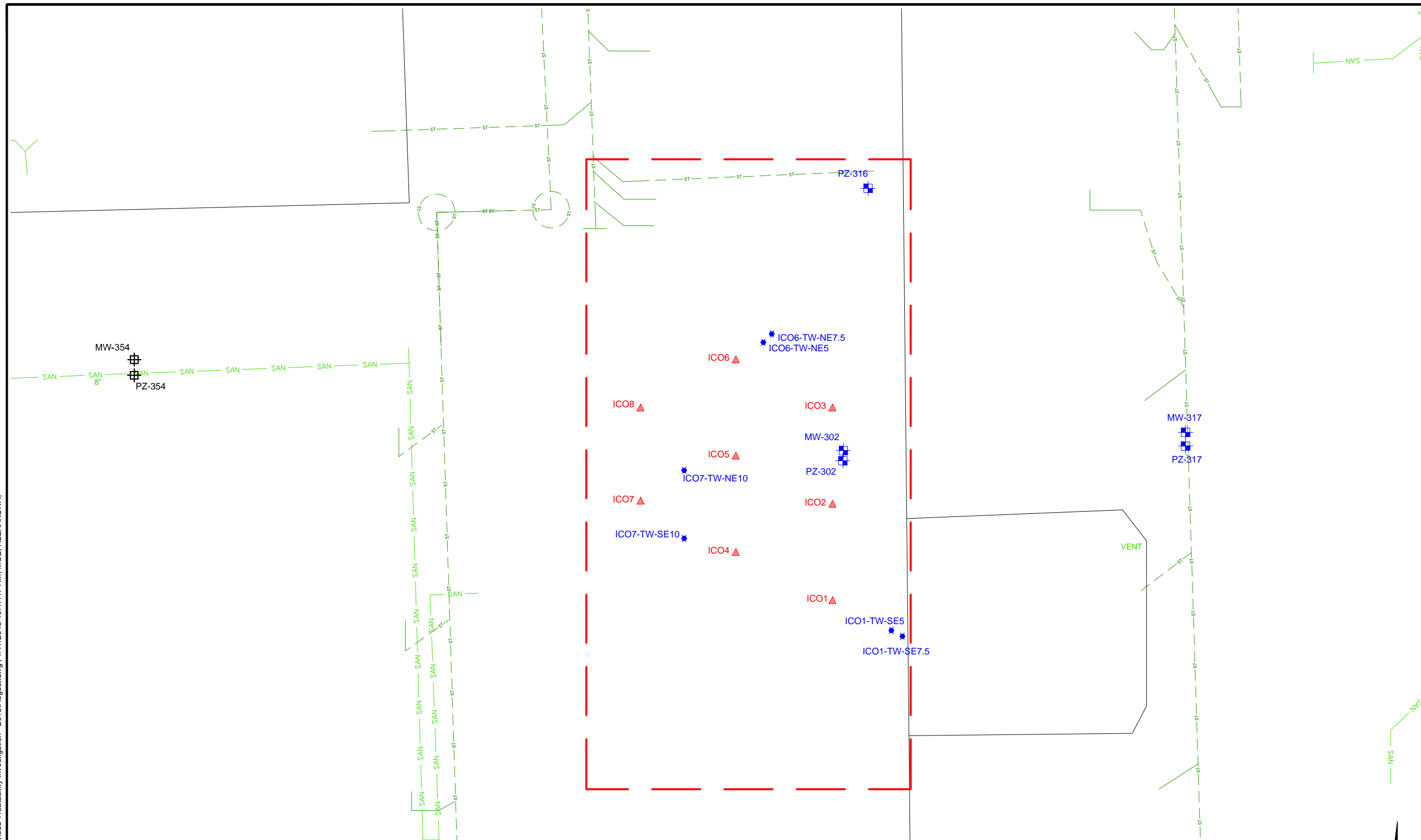


**GROUNDWATER CONTAMINATION PLUME EXTENT & TCE ISOCONCENTRATIONS
(DECEMBER & SEPTEMBER 2014)
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**

Drawn : SAE 7/3/2017
 Checked: LLA 7/3/2017
 Approved: SP 7/7/2017
 PROJECT NUMBER: 60518412
 FIGURE NUMBER: 5

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ISCO PILOT STUDY LAYOUT
 KENOSHA ENGINE PLANT
 CITY OF KENOSHA
 KENOSHA, WISCONSIN



LEGEND

- MONITORING WELL (MW) OR PIEZOMETER (PZ) FOR ISCO PILOT TEST MONITORING
- ISCO PILOT INJECTION LOCATION
- TEMPORARY WELL (TW) FOR ISCO MONITORING
- ABANDONED MONITORING WELL (MW) OR PIEZOMETER (PZ)
- STORM SEWER (APPROXIMATE LOCATION)
- SANITARY SEWER (APPROXIMATE LOCATION) (8" inch diameter pipe)
- FORMER BUILDING INTERIOR WALL
- ISCO PILOT STUDY AREA

Drawn : ANM 7/3/2017

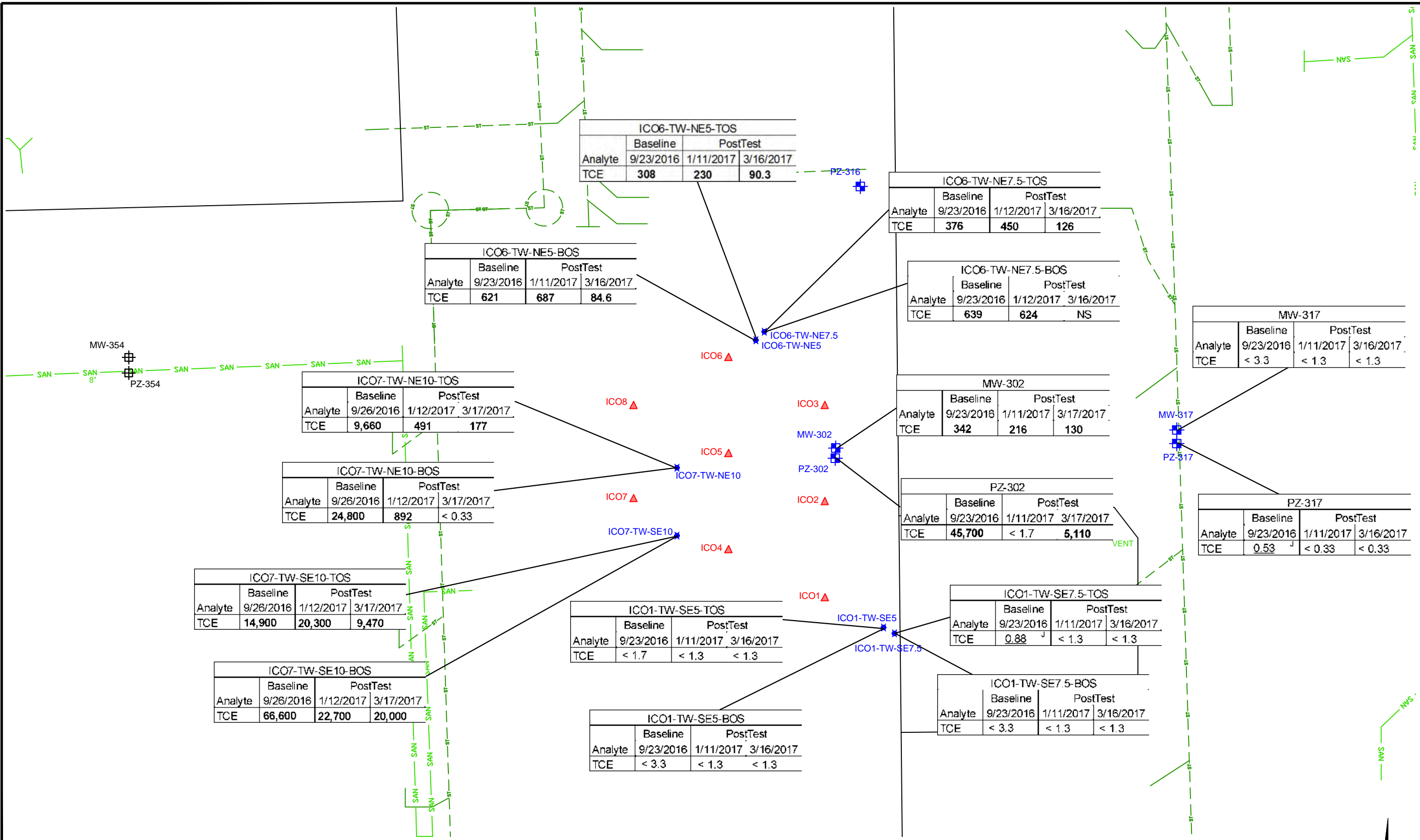
Checked: LLA 7/3/2017

Approved: SP 7/7/2017

PROJECT NUMBER 60518412

FIGURE NUMBER 6

**TCE CONCENTRATIONS IN GROUNDWATER
BASELINE AND POST-INJECTION MONITORING RESULTS
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**

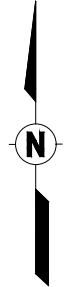
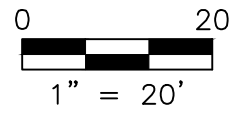


LEGEND

- MONITORING WELL (MW) OR PIEZOMETER (PZ) FOR ISCO PILOT TEST MONITORING
- ISCO PILOT INJECTION LOCATION
- TEMPORARY WELL (TW) FOR ISCO MONITORING
- ABANDONED MONITORING WELL (MW) OR PIEZOMETER (PZ)
- STORM SEWER (APPROXIMATE LOCATION)
- SANITARY SEWER (APPROXIMATE LOCATION) (8" inch diameter pipe)
- FORMER BUILDING INTERIOR WALL

Notes:

1. All results in micrograms per liter (µg/L)
2. TCE = trichloroethene
3. PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above PAL are underlined
4. ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above ES are bold
5. ^J = Estimated value
6. TOS = Top of Screen
7. BOS = Bottom of Screen

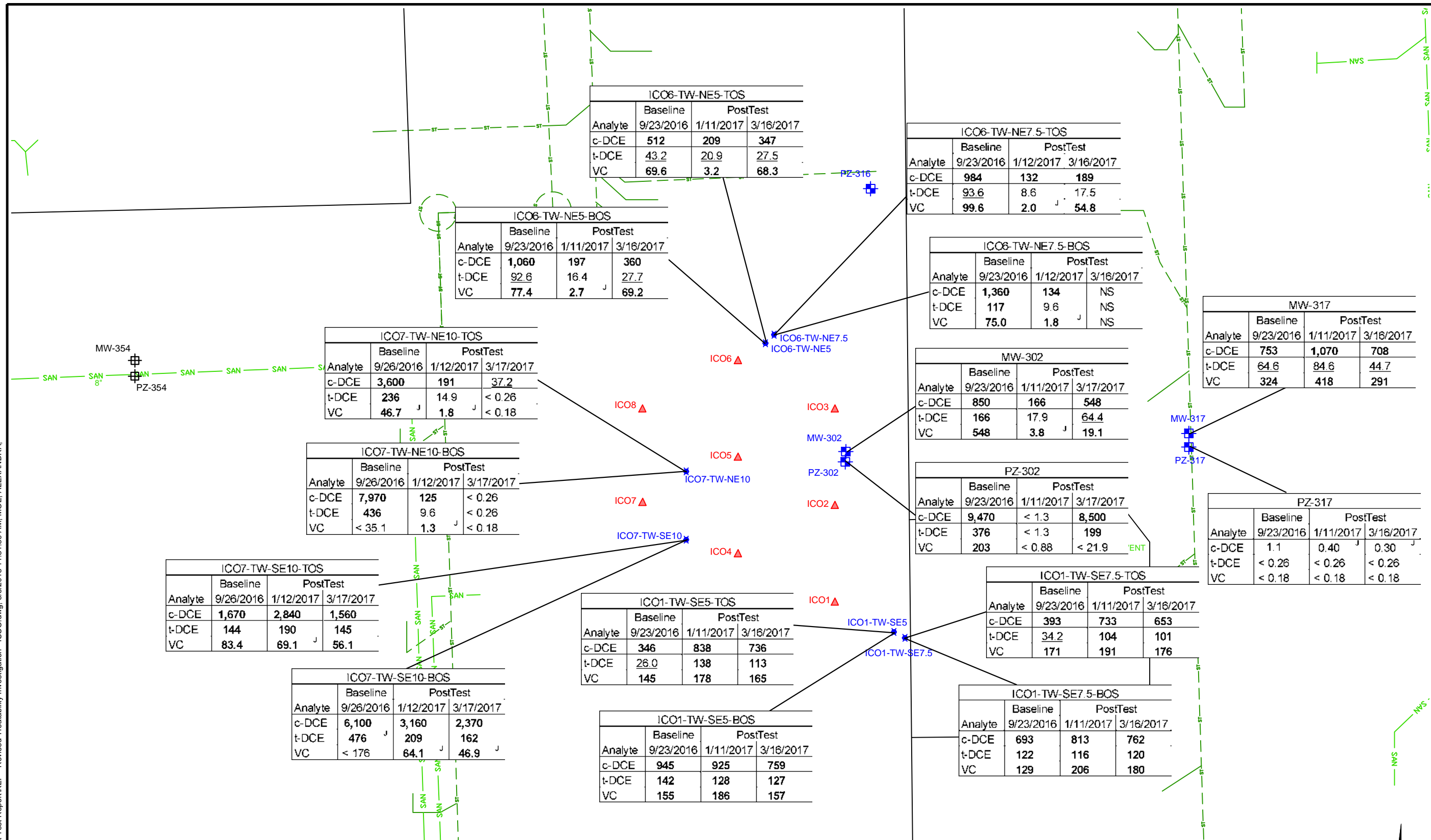


Drawn : ANM 7/3/2017
Checked: LLA 7/3/2017
Approved: SP 7/7/2017

PROJECT NUMBER 60518412

FIGURE NUMBER 7

**DCE & VC CONCENTRATIONS IN GROUNDWATER
BASELINE AND POST-INJECTION MONITORING RESULTS
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN**



IC07-TW-NE10-TOS				
Analyte	Baseline	PostTest		
	9/26/2016	1/12/2017	3/17/2017	
c-DCE	3,600	191	37.2	
t-DCE	236	14.9	< 0.26	
VC	46.7	1.8	< 0.18	

IC07-TW-NE10-BOS				
Analyte	Baseline	PostTest		
	9/26/2016	1/12/2017	3/17/2017	
c-DCE	7,970	125	< 0.26	
t-DCE	436	9.6	< 0.26	
VC	< 35.1	1.3	< 0.18	

IC07-TW-SE10-TOS				
Analyte	Baseline	PostTest		
	9/26/2016	1/12/2017	3/17/2017	
c-DCE	1,670	2,840	1,560	
t-DCE	144	190	145	
VC	83.4	69.1	56.1	

IC07-TW-SE10-BOS				
Analyte	Baseline	PostTest		
	9/26/2016	1/12/2017	3/17/2017	
c-DCE	6,100	3,160	2,370	
t-DCE	476	209	162	
VC	< 176	64.1	46.9	

IC06-TW-NE5-TOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	512	209	347	
t-DCE	43.2	20.9	27.5	
VC	69.6	3.2	68.3	

IC06-TW-NE5-BOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	1,060	197	360	
t-DCE	92.6	16.4	27.7	
VC	77.4	2.7	69.2	

IC06-TW-NE7.5-TOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/12/2017	3/16/2017	
c-DCE	984	132	189	
t-DCE	93.6	8.6	17.5	
VC	99.6	2.0	54.8	

IC06-TW-NE7.5-BOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/12/2017	3/16/2017	
c-DCE	1,360	134	NS	
t-DCE	117	9.6	NS	
VC	75.0	1.8	NS	

MW-302				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/17/2017	
c-DCE	850	166	548	
t-DCE	166	17.9	64.4	
VC	548	3.8	19.1	

PZ-302				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/17/2017	
c-DCE	9,470	< 1.3	8,500	
t-DCE	376	< 1.3	199	
VC	203	< 0.88	< 21.9	

MW-317				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	753	1,070	708	
t-DCE	64.6	84.6	44.7	
VC	324	418	291	

PZ-317				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	1.1	0.40	0.30	
t-DCE	< 0.26	< 0.26	< 0.26	
VC	< 0.18	< 0.18	< 0.18	

IC01-TW-SE5-TOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	346	838	736	
t-DCE	26.0	138	113	
VC	145	178	165	

IC01-TW-SE7.5-TOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	393	733	653	
t-DCE	34.2	104	101	
VC	171	191	176	

IC01-TW-SE5-BOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	945	925	759	
t-DCE	142	128	127	
VC	155	186	157	

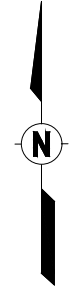
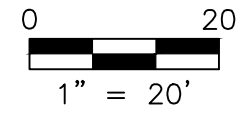
IC01-TW-SE7.5-BOS				
Analyte	Baseline	PostTest		
	9/23/2016	1/11/2017	3/16/2017	
c-DCE	693	813	762	
t-DCE	122	116	120	
VC	129	206	180	

LEGEND

- MONITORING WELL (MW) OR PIEZOMETER (PZ) FOR ISCO PILOT TEST MONITORING
- ISCO PILOT INJECTION LOCATION
- TEMPORARY WELL (TW) FOR ISCO MONITORING
- ABANDONED MONITORING WELL (MW) OR PIEZOMETER (PZ)
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- SANITARY SEWER (APPROXIMATE LOCATION) (8" inch diameter pipe)
- FORMER BUILDING INTERIOR WALL

Notes:

1. All results in micrograms per liter (µg/L)
2. c-DCE = cis-1,2-dichloroethene
3. t-DCE = trans-1,2-dichloroethene
4. VC = vinyl chloride
5. PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above PAL are underlined
6. ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above ES are **bold**
7. ^J = Estimated value
8. TOS = Top of Screen
9. BOS = Bottom of Screen



Drawn: ANM 7/3/2017
Checked: LLA 7/3/2017
Approved: SP 7/7/2017

PROJECT NUMBER **60518412**

FIGURE NUMBER **8**

P:\60518412\900_Work\ICAD\ISCO Pilot Test Report\ICP - Revised Treatability Investigation - ISCO.dwg: 3/8/2018 11:31:59 AM; MOE, ALEXANDRA, ---

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Table 1
Groundwater Depth Measurements and Elevations
Former Kenosha Engine Plant ISCO Pilot Test

Well Name	MW-302		PZ-302		PZ-316		MW-317		PZ-317		MW-354		PZ-354	
Ground Elevation (ft)	625.89		625.91		626.00		625.87		625.86		626.04		626.06	
Top of Casing Elevation (ft)	625.41		625.56		628.72		628.00		628.44		628.04		628.06	
Top of Screen Elevation (ft)	622.22		608.18		604.21		621.15		604.70		621.56		605.97	
Screen Length (ft)	10		2.5		2.5		10		2.5		10		2.5	
Well Bottom (ft)	13.19		19.88		27.01		16.85		26.24		16.48		24.59	
Relative Location to ISCO Test Area	Injection Area		Injection Area		Side-Gradient		Down-Gradient		Down-Gradient		Up-Gradient		Up-Gradient	
Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)
5/07 - 5/20/2014	7.45	617.78	6.61	618.95	10.80	617.92	9.95	618.05	10.42	618.02	10.36	617.68	10.32	617.74
9/22/2014	8.09	617.14	8.14	617.42	11.22	617.50	10.66	617.34	10.98	617.46	10.30	617.74	10.30	617.76
12/1/2014	8.10	617.13	8.30	617.26	11.34	617.38	11.62	616.38	10.98	617.46	10.38	617.66	10.39	617.67
3/20/2015	8.32	616.91	8.47	617.09	11.48	617.24	10.81	617.19	11.22	617.22	10.59	617.45	10.55	617.51
9/21/2015	7.74	617.49	8.07	617.49	10.94	617.78	10.31	617.69	10.66	617.78	9.91	618.13	9.91	618.15
4/13/2016	7.20	618.03	7.71	617.85	10.44	618.28	9.74	618.26	10.18	618.26	9.65	618.39	9.62	618.44
9/23/2016	8.09	617.32	8.22	617.34	11.24	617.48	10.55	617.45	10.98	617.46	10.35	617.69	10.34	617.72
12/6/2016 (Pilot Test)	7.43	617.98	7.51	618.05	10.64	618.08	NM	NM	NM	NM	Abandoned November 10, 2016 as part of other site remedial activities			
1/11/2017	7.64	617.77	7.84	617.72	10.83	617.89	10.29	617.71	10.64	617.80				
3/17/2017	7.20	618.21	7.45	618.11	NM	NM	9.97	618.03	10.33	618.11				
4/4/2017	Monitoring wells abandoned during excavation of contaminated source soil													

Well Name	ICO-1-TW-SE5		ICO-1-TW-SE7.5		ICO-6-TW-NE5		ICO-6-TW-NE7.5		ICO-7-TW-NE10		ICO-7-TW-SE10	
Ground Elevation (ft)	625.89		625.91		626.04		626.06		626.04		626.06	
Top of Casing Elevation (ft)	--		--		--		--		--		--	
Top of Screen Elevation (ft)	--		--		--		--		--		--	
Screen Length (ft)	15		15		15		15		15		15	
Well Bottom (ft)	19		19		19		20		19		19	
Relative Location to ISCO Test Area	Injection Area		Injection Area		Injection Area		Injection Area		Injection Area		Injection Area	
Date	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)	Depth to GW from TOC (ft)	Groundwater Elevation (ft)
9/23/2016	8.20	617.69	8.15	617.76	8.31	617.73	8.25	617.81	8.17	617.87	8.23	617.83
12/6/2017 (Pilot Test)	7.63	618.26	7.62	618.29	7.63	618.41	7.57	618.49	7.54	618.50	7.63	618.43
1/1/2017	7.81	618.08	7.78	618.13	7.81	618.23	7.79	618.27	7.72	618.32	7.78	618.28
3/17/2017	7.41	618.48	7.32	618.59	7.46	618.58	7.45	618.61	7.28	618.76	7.37	618.69

Notes:

-- Temporary wells not surveyed; adjacent ground elevation used to estimate groundwater elevation.

ft = feet

NM = not measured

Table 2
Field Parameter Measurements
Former Kenosha Engine Plant ISCO Pilot Test

Well Name/Sample Location	Relative Location to ISCO Test Area	Sample Date	pH (standard units)	DO (mg/L)	ORP (mV)	Conductivity (µS/cm)	Temperature (°C)	Depth to Groundwater (ft below TOC)
ISCO Pilot Test Area Permanent Wells								
MW-302	Injection Area	9/23/2016	6.89	0.83	-68.6	2.244	19.53	8.09
		1/11/2017	7.69	0.71	-30.3	4.810	12.50	10.00
		3/17/2017	7.55	0.87	66.4	3.695	8.68	9.14
PZ-302	Injection Area	9/23/2016	7.05	0.31	-106.6	2.233	17.99	8.62
		1/12/2017	8.17	0.75	496.4	7.805	13.90	10.08
		3/17/2017	9.35	0.11	29.8	5.980	11.16	8.63
PZ-316	Side-Gradient	9/23/2016	7.29	0.32	-42.8	1.335	18.39	14.29
		1/11/2017	7.62	5.46	55.3	1.389	12.71	13.92
		3/17/2017	--	--	--	--	--	--
MW-317	Down-Gradient	9/26/2016	6.76	0.51	-94.7	1.630	18.23	10.69
		1/11/2017	6.94	0.29	52.8	1.853	12.28	10.38
		3/16/2017	7.08	0.22	82.5	1.423	9.81	10.03
PZ-317	Down-Gradient	9/23/2016	7.33	0.34	13.3	1.345	17.94	16.28
		1/11/2017	7.28	5.99	173.7	1.212	12.30	15.73
		3/16/2017	7.81	2.23	48.3	1.640	10.72	14.45
MW-354*	Up-Gradient	9/26/2016	6.89	0.33	-48.1	0.657	18.81	10.35
PZ-354*	Up-Gradient	9/26/2016	7.33	0.76	35.2	0.694	17.48	15.71
ISCO Pilot Test Area Temporary Wells								
IC01-TW-SE5 TOS	Injection Area	9/23/2016	6.91	0.43	-89.4	1.436	19.11	8.30
		1/11/2017	7.01	0.52	-52.8	1.512	11.02	7.85
		3/16/2017	7.25	0.40	-38.8	1.909	10.93	7.42
IC01-TW-SE5 BOS	Injection Area	9/23/2016	6.88	0.29	-103.5	2.309	18.35	8.30
		1/11/2017	7.04	0.25	-68.2	2.104	12.97	7.90
		3/16/2017	7.28	0.45	-47.0	2.299	11.24	7.46
IC01-TW-SE7.5 TOS	Injection Area	9/23/2016	6.86	0.36	-81.6	1.478	19.00	8.26
		1/11/2017	7.01	0.85	-73.7	2.013	12.86	7.81
		3/16/2017	6.99	0.12	-74.9	1.702	11.51	7.36
IC01-TW-SE7.5 BOS	Injection Area	9/23/2016	6.82	0.44	-72.6	2.386	18.08	8.26
		1/11/2017	7.09	0.65	-72.3	2.206	13.71	7.79
		3/16/2017	7.02	0.11	-96.9	1.962	11.79	7.41
IC06-TW-NE5 TOS	Injection Area	9/23/2016	6.84	0.33	-76.6	1.931	19.35	8.34
		1/11/2017	7.80	0.36	-75.7	2.856	14.16	7.93
		3/16/2017	8.40	0.71	-42.3	2.080	10.69	7.43
IC06-TW-NE5 BOS	Injection Area	9/23/2016	6.90	0.38	-85.3	1.951	18.35	8.34
		1/11/2017	8.69	0.10	-53.1	5.426	13.92	7.91
		3/16/2017	8.63	0.83	-49.1	2.154	10.79	7.44
IC06-TW-NE7.5 TOS	Injection Area	9/23/2016	6.92	0.45	-80.1	1.943	19.75	8.31
		1/12/2017	7.59	0.57	73.2	3.108	13.39	7.97
		3/16/2017	7.05	0.32	84.0	1.566	11.99	7.51
IC06-TW-NE7.5 BOS	Injection Area	9/23/2016	6.94	0.33	-83.3	1.987	18.95	8.31
		1/12/2017	8.57	0.39	236.9	4.068	11.96	7.96
		3/16/2017	8.29	0.09	-0.4	2.087	11.94	7.41
IC07-TW-NE10 TOS	Injection Area	9/26/2016	6.93	0.60	-21.2	2.133	19.83	9.29
		1/12/2017	7.65	0.15	149.9	5.640	10.20	8.53
		3/17/2017	7.61	0.24	524.6	4.798	9.24	7.78
IC07-TW-NE10 BOS	Injection Area	9/26/2016	6.95	0.32	-54.9	2.181	18.48	9.29
		1/12/2017	7.71	0.20	112.5	6.948	12.19	8.58
		3/17/2017	7.56	0.57	532.2	5.049	9.40	7.78
IC07-TW-SE10 TOS	Injection Area	9/26/2016	6.91	0.49	-64.9	2.057	19.70	8.33
		1/12/2017	7.10	0.20	104.2	1.580	9.80	7.90
		3/17/2017	7.49	0.50	45.0	2.095	9.18	7.40
IC07-TW-SE10 BOS	Injection Area	9/26/2016	6.95	0.50	-79.8	2.260	18.53	8.33
		1/12/2017	7.14	0.18	94.1	1.777	12.10	7.90
		3/17/2017	7.51	0.56	94.2	2.181	9.99	7.40

Notes:

mg/L = milligrams per liter
mV = millivolts
µS/cm = microSiemens per centimeter

°C = degrees Celsius
ft = feet
TOC = top of casing

TOS = Top of Screen
BOS = Bottom of Screen
* Wells abandoned during other site remedial activities

-- = not measured

**Table 3
Baseline and Post-Injection VOC Results Summary
Former Kenosha Engine Plant ISCO Pilot Test**

Location	Relative Location to ISCO Test Area	Field ID	Sample Date	1,1,1-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	Chloroform (ug/L)	cis-1,2-Dichloroethene (ug/L)	Methylene Chloride (ug/L)	trans-1,2-Dichloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)
ISCO Pilot Test Area Permanent Wells											
MW-302	Injection Area	CS3-MW-302	9/23/2016	< 5	< 2.4	< 25	850	< 2.3	<u>70</u>	342	173
			1/11/2017	< 2.5	< 1.2	< 12.5	166	< 1.2	17.9	216	3.8^J
			3/17/2017	< 5	< 2.4	< 25	548	< 2.3	<u>64.4</u>	130	19.1
PZ-302	Injection Area	CS3-PZ-302	9/23/2016	< 100	< 48.3	< 500	9470	132^J	376	45700	203
			1/12/2017	< 2.5	< 1.2	12.8^J	< 1.3	<u>3.6^J</u>	< 1.3	< 1.7	< 0.88
			3/17/2017	< 62.5	< 30.2	< 312	8500	< 29.1	199	5110	< 21.9
MW-317	Down-gradient	CS3-MW-317	9/26/2016	< 5	< 2.4	< 25	753	<u>3.3^J</u>	<u>64.6</u>	< 3.3	324
			1/11/2017	< 2	< 0.97	< 10	1040	< 0.93	<u>80.1</u>	< 1.3	402
			3/16/2017	< 2	< 0.97	< 10	708	< 0.93	<u>44.7</u>	< 1.3	291
		CS-3-MW-317 DUP	1/11/2017	< 2	< 0.97	< 10	1070	< 0.93	<u>84.6</u>	< 1.3	418
PZ-317	Down-gradient	CS3-PZ-317	9/23/2016	< 0.5	< 0.24	< 2.5	1.1	< 0.23	< 0.26	<u>0.53^J</u>	< 0.18
			1/11/2017	< 0.5	< 0.24	< 2.5	0.4 ^J	< 0.23	< 0.26	< 0.33	< 0.18
			3/16/2017	< 0.5	< 0.24	< 2.5	0.31 ^J	< 0.23	< 0.26	< 0.33	< 0.18
MW-354*	Up-gradient	CS3-MW-354	9/26/2016	< 2	< 0.97	< 10	248	<u>1.1^J</u>	12.5	43.2	101
		CS3-MW-354 DUP	9/26/2016	< 2.5	< 1.2	< 12.5	205	< 1.2	10.1	41.9	85.6
PZ-354*	Up-gradient	CS3-PZ-354	9/26/2016	< 0.5	< 0.24	< 2.5	0.65 ^J	< 0.23	< 0.26	0.45 ^J	< 0.18
ISCO Pilot Test Area Temporary Wells											
ICO1-TW-SE5	Injection Area	ICO1-TW-SE5-TOS	9/23/2016	< 2.5	< 1.2	< 12.5	346	<u>2.1^J</u>	<u>26</u>	< 1.7	145
			1/11/2017	< 2	< 0.97	< 10	838	< 0.93	138	< 1.3	178
			3/16/2017	< 2	< 0.97	< 10	736	< 0.93	113	< 1.3	165
		ICO1-TW-SE5-BOS	9/23/2016	< 5	< 2.4	< 25	945	<u>3.7^J</u>	142	< 3.3	155
			1/11/2017	< 2	< 0.97	< 10	925	< 0.93	128	< 1.3	186
			3/16/2017	< 2	< 0.97	< 10	759	< 0.93	127	< 1.3	157
ICO1-TW-SE7.5	Injection Area	ICO1-TW-SE7.5-TOS	9/23/2016	< 1.2	< 0.6	< 6.2	393	< 0.58	<u>34.2</u>	<u>0.88^J</u>	171
			1/11/2017	< 2	< 0.97	< 10	733	< 0.93	104	< 1.3	191
			3/16/2017	< 2	< 0.97	< 10	653	< 0.93	101	< 1.3	176
		ICO1-TW-SE7.5-BOS	9/23/2016	< 5	< 2.4	< 25	693	<u>4^J</u>	122	< 3.3	129
			1/11/2017	< 2	< 0.97	< 10	813	< 0.93	116	< 1.3	206
			3/16/2017	< 2	< 0.97	< 10	762	< 0.93	120	< 1.3	180
			PAL:	40	85	0.6	7	0.5	20	0.5	0.02
			ES:	200	850	6	70	5	100	5	0.2

Table 3
Baseline and Post-Injection VOC Results Summary
Former Kenosha Engine Plant ISCO Pilot Test

Location	Relative Location to ISCO Test Area	Field ID	Sample Date	1,1,1-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	Chloroform (ug/L)	cis-1,2-Dichloroethene (ug/L)	Methylene Chloride (ug/L)	trans-1,2-Dichloroethene (ug/L)	Trichloroethene (ug/L)	Vinyl chloride (ug/L)
ISCO Pilot Test Area Temporary Wells											
ICO6-TW-NE5	Injection Area	ICO6-TW-NE5-TOS	9/23/2016	< 2.5	< 1.2	< 12.5	512	<u>1.3^J</u>	<u>43.2</u>	308	69.6
			1/11/2017	< 1.2	<u>2^J</u>	< 6.2	209	<u>0.77^J</u>	<u>20.9</u>	230	3.2
			3/16/2017	< 2.5	< 1.2	< 12.5	347	< 1.2	<u>27.5</u>	90.3	68.3
		ICO6-TW-NE5-BOS	9/23/2016	< 5	< 2.4	< 25	1060	<u>2.7^J</u>	<u>92.6</u>	621	77.4
			1/11/2017	< 2	<u>1.4^J</u>	< 10	197	<u>1.2^J</u>	16.4	687	<u>2.7^J</u>
3/16/2017	< 2.5	< 1.2	< 12.5	360	< 1.2	<u>27.7</u>	84.6	69.2			
ICO6-TW-NE7.5	Injection Area	ICO6-TW-NE7.5-TOS	9/23/2016	< 2.5	< 1.2	< 12.5	984	<u>1.9^J</u>	<u>93.6</u>	376	99.6
			1/12/2017	< 2	< 0.97	< 10	132	<u>1.3^J</u>	8.6	450	<u>2^J</u>
			3/16/2017	< 0.5	<u>0.51^J</u>	< 2.5	189	< 0.23	17.5	126	54.8
		ICO6-TW-NE7.5-BOS	9/23/2016	< 10	< 4.8	< 50	1360	8.6^J	117	639	75
			1/12/2017	< 2	< 0.97	< 10	134	<u>1.3^J</u>	9.6	624	<u>1.8^J</u>
3/16/2017	< 2	< 0.97	< 10	160	< 0.93	14.3	287	23.3			
ICO7-TW-NE10	Injection Area	ICO7-TW-NE10-TOS	9/26/2016	< 25	< 12.1	< 125	3600	15.8^J	236	9660	46.7^J
			1/12/2017	< 2	< 0.97	< 10	191	< 0.93	14.9	491	<u>1.8^J</u>
			3/17/2017	<u>0.6^J</u>	< 0.24	< 2.5	<u>37.2</u>	< 0.23	< 0.26	177	< 0.18
		ICO7-TW-NE10-BOS	9/26/2016	< 100	< 48.3	< 500	7970	< 46.5	436	24800	< 35.1
			1/12/2017	< 2	< 0.97	< 10	125	<u>1.1^J</u>	9.6	892	<u>1.3^J</u>
3/17/2017	<u>0.84^J</u>	< 0.24	< 2.5	< 0.26	< 0.23	< 0.26	< 0.33	< 0.18			
ICO7-TW-SE10	Injection Area	ICO7-TW-SE10-TOS	9/26/2016	< 25	< 12.1	< 125	1670	< 11.6	144	14900	83.4
			1/12/2017	< 50	< 24.2	< 250	2840	< 23.3	190	20300	<u>69.1^J</u>
			3/17/2017	< 25	< 12.1	< 125	1560	< 11.6	145	9470	56.1
		ICO7-TW-SE10-TOS-DUP	9/26/2016	< 50	< 24.2	< 250	1740	31^J	161	15800	<u>81.2^J</u>
			1/12/2017	< 50	< 24.2	< 250	3340	< 23.3	214	26600	<u>71.1^J</u>
		3/17/2017	< 20	< 9.7	< 100	1470	< 9.3	141	8960	51.7	
		ICO7-TW-SE10-BOS	9/26/2016	< 500	< 242	< 2500	6100	< 233	476^J	66600	< 176
1/12/2017	< 50		< 24.2	< 250	3160	< 23.3	209	22700	<u>64.1^J</u>		
3/17/2017	< 50	< 24.2	< 250	2370	< 23.3	162	20000	<u>46.9^J</u>			
PAL:				40	85	0.6	7	0.5	20	0.5	0.02
ES:				200	850	6	70	5	100	5	0.2

Notes:

ug/L = micrograms per liter

^J = Estimated value

Only detected compounds are included on this table.

PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017 exceedances are underlined italics.

ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017, exceedances are **Bold**.

* Wells were abandoned during site remedial activities

**Table 4
Baseline and Post-Injection Metals Results Summary
Former Kenosha Engine Plant ISCO Pilot Test**

Location	Relative Location to ISCO Test Area	Field ID	Sample Date	Barium	Chromium	Iron (dissolved)	Lead	Manganese (dissolved)	Nickel
PAL:				400	10	150	1.5	60	20
ES:				2000	100	300	15	300	100
ISCO Pilot Test Area Permanent Wells									
MW-302	Injection Area	CS3-MW-302	9/23/2016	129	< 0.39	3,200	0.37 ^J	<u>256</u>	6.0
			1/11/2017	20.0	<u>26.4</u>	< 15.5	<u>3.4</u> ^J	1,320	12.4
PZ-302	Injection Area	CS3-PZ-302	9/23/2016	107	0.76 ^J	3,330	0.17 ^J	<u>113</u>	3.0
			1/12/2017	10.2 ^J	367	< 34	< 2.0	204,000	< 5.6
MW-317	Down-Gradient	CS3-MW-317	9/26/2016	95.0	< 0.39	4,030	0.12 ^J	<u>190</u>	9.5
			1/11/2017	77.0	0.57 ^J	3,160	0.24 ^J	<u>214</u>	8.6
		CS-3-MW-317 DUP	1/11/2017	76.1	< 0.39	2,980	0.07 ^J	<u>213</u>	8.4
PZ-317	Down-Gradient	CS3-PZ-317	9/23/2016	162	< 0.39	83.6 ^J	< 0.04	59.8	1.0 ^J
			1/11/2017	155	< 0.39	< 15.5	< 0.04	13.8	0.91 ^J
MW-354*	Up-Gradient	CS3-MW-354	9/26/2016	67.1	< 0.39	416	< 0.04	<u>274</u>	2.7
		CS3-MW-354 DUP	9/26/2016	67.6	< 0.39	407	< 0.04	<u>273</u>	2.6
PZ-354*	Up-Gradient	CS3-PZ-354	9/26/2016	131	0.56 ^J	48.6 ^J	0.08 ^J	14.9	1.2
ISCO Pilot Test Area Temporary Wells									
ICO1-TW-SE5	Injection Area	ICO1-TW-SE5-TOS	9/23/2016	125	< 0.39	2,280	0.08 ^J	<u>279</u>	6.6
			1/11/2017	98.7	0.59 ^J	4,550	< 0.04	<u>214</u>	4.9
		ICO1-TW-SE5-BOS	9/23/2016	122	< 0.39	4,720	0.10 ^J	<u>246</u>	4.9
ICO1-TW-SE7.5	Injection Area	ICO1-TW-SE7.5-TOS	9/23/2016	121	< 0.39	2,470	0.07	<u>298</u>	13.3
			1/11/2017	99.2	0.44 ^J	3,850	0.09 ^J	366	7.2
		ICO1-TW-SE7.5-BOS	9/23/2016	119	< 0.39	1,420	0.09 ^J	308	6.6
ICO6-TW-NE5	Injection Area	ICO6-TW-NE5-TOS	9/23/2016	102	< 0.39	3,190	< 0.04	354	6.5
			1/11/2017	228	<u>18.2</u>	1,380	1.1	3,920	18.6
		ICO6-TW-NE5-BOS	9/23/2016	95.8	< 0.39	2,770	0.16 ^J	305	6.6
ICO6-TW-NE7.5	Injection Area	ICO6-TW-NE7.5-TOS	9/23/2016	94.2	0.84 ^J	2,370	1.0	341	8.2
			1/12/2017	16.5	<u>24.1</u>	120	< 0.04	5,050	<u>25.8</u>
		ICO6-TW-NE7.5-BOS	9/23/2016	94.0	< 0.39	2,620	0.05 ^J	<u>286</u>	6.7
ICO7-TW-NE10	Injection Area	ICO7-TW-NE10-TOS	9/26/2016	107	< 0.39	868	0.04 ^J	306	8.1
			1/12/2017	7.0	122	355	< 0.2	7,240	<u>24.9</u>
		ICO7-TW-NE10-BOS	9/26/2016	104	0.98 ^J	1,060	0.52 ^J	<u>240</u>	7.9
ICO7-TW-SE10	Injection Area	ICO7-TW-SE10-TOS	9/26/2016	135	< 0.39	1,530	< 0.04	<u>294</u>	6.0
			1/12/2017	51.2	< 0.39	< 15.5	< 0.04	4,220	8.0
		ICO7-TW-SE10-TOS -DUP	9/26/2016	135	< 0.39	1,560	< 0.04	<u>294</u>	5.9
ICO7-TW-SE10-BOS	Injection Area	9/26/2016	51.2	0.40 ^J	17.3 ^J	< 0.04	3,940	7.8	
		1/12/2017	120	0.69 ^J	1,780	0.21 ^J	<u>238</u>	6.6	
ICO7-TW-SE10-BOS	Injection Area	ICO7-TW-SE10-BOS	9/26/2016	120	0.69 ^J	1,780	0.21 ^J	<u>238</u>	6.6
			1/12/2017	39.9	0.77 ^J	< 15.5	0.06 ^J	4,770	9.8

Notes:

All results in micrograms per liter (µg/L)

PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above PAL are underlined

ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 1, February 2017; concentrations above ES are Bold

* Wells were abandoned during other site remedial activities

^J = Estimated value

Samples for iron and manganese were filtered (dissolved metals results)

Samples for barium, chromium, lead, and nickel analysis were not filtered (total metals results)

Table 5
Baseline and Post-Injection Groundwater General Chemistry Parameters
Former Kenosha Engine Plant ISCO Pilot Test

Location	Relative Location to ISCO Test Area	Field ID	Sample Date	Chloride	Sulfate	Total Organic Carbon	
ISCO Pilot Test Area Permanent Wells							
MW-302	Injection Area	CS3-MW-302	9/23/2016	<u>173</u>	511	21.2	
			1/11/2017	96.6	854	236	
PZ-302	Injection Area	CS3-PZ-302	9/23/2016	334	283	4.1 ^J	
			1/12/2017	310	1,590	499	
MW-317	Down-Gradient	CS3-MW-317	9/26/2016	<u>135</u>	358	7.8 ^J	
			1/11/2017	115	474	9.7	
		CS-3-MW-317 DUP	1/11/2017	113	470	9.7	
PZ-317	Down-Gradient	CS3-PZ-317	9/23/2016	<u>187</u>	123	< 0.25	
			1/11/2017	<u>201</u>	122	< 0.25	
MW-354*	Up-Gradient	CS3-MW-354	9/26/2016	37.5 ^J	117	6.1	
		CS3-MW-354 DUP	9/26/2016	36.7 ^J	114	6.3	
PZ-354*	Up-Gradient	CS3-PZ-354	9/26/2016	<u>130</u>	<u>141</u>	< 0.25	
ISCO Pilot Test Area Temporary Wells							
ICO1-TW-SE5	Injection Area	ICO1-TW-SE5-TOS	9/23/2016	65.2	304	12.6	
			1/11/2017	<u>222</u>	346	15.3	
		ICO1-TW-SE5-BOS	9/23/2016	288	496	4.9 ^J	
			1/11/2017	<u>231</u>	366	14.5	
ICO1-TW-SE7.5	Injection Area	ICO1-TW-SE7.5-TOS	9/23/2016	102	303	14.3	
			1/11/2017	<u>184</u>	414	16.6	
		ICO1-TW-SE7.5-BOS	9/23/2016	390	435	1.6 ^J	
			1/11/2017	<u>203</u>	439	14.8	
ICO6-TW-NE5	Injection Area	ICO6-TW-NE5-TOS	9/23/2016	<u>163</u>	513	13.8	
			1/11/2017	113	644	113	
		ICO6-TW-NE5-BOS	9/23/2016	<u>221</u>	471	11.5	
			1/11/2017	<u>127</u>	864	306	
ICO6-TW-NE7.5	Injection Area	ICO6-TW-NE7.5-TOS	9/23/2016	<u>187</u>	461	14.6	
			1/12/2017	<u>130</u>	791	152	
		ICO6-TW-NE7.5-BOS	9/23/2016	<u>231</u>	435	11.5	
			1/12/2017	<u>134</u>	860	244	
ICO7-TW-NE10	Injection Area	ICO7-TW-NE10-TOS	9/26/2016	<u>177</u>	494	12.6	
			1/12/2017	63.5	915	417	
		ICO7-TW-NE10-BOS	9/26/2016	<u>207</u>	463	12.2	
			1/12/2017	68.7	919	486	
ICO7-TW-SE10	Injection Area	ICO7-TW-SE10-TOS	9/26/2016	<u>185</u>	422	14.6	
			1/12/2017	<u>154</u>	452	16.7	
		ICO7-TW-SE10-TOS -DUP	9/26/2016	<u>178</u>	462	14.9	
			1/12/2017	<u>157</u>	454	16.0	
		ICO7-TW-SE10-BOS	9/26/2016	<u>203</u>	531	12.4	
			1/12/2017	<u>164</u>	451	17.6	
				PAL:	125	125	NE
				ES:	250	250	NE

Notes:

All results in milligrams per liter (mg/L)

PAL - Preventive Action Limit, Wisconsin Administrative Code NR 140.10 Table 2, February 2017;
concentrations above PAL are underlined

ES - Enforcement Standard, Wisconsin Administrative Code NR 140.10 Table 2, February 2017;
concentrations above ES are Bold

NE - PAL and ES are not established for this analyte

* Wells were abandoned during other site remedial activities

^J = Estimated value

Appendix A

Laboratory Scale Treatability Study Results (AECOM, September 2015)



AECOM
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September 24, 2015

Ms. Shelly Billingsley
Acting Director of Public Works
City of Kenosha
625 52nd Street, Room 305
Kenosha, WI 53140

**Subject: Laboratory Scale Treatability Study Results
Former Kenosha Engine Plant
5555 - 30th Avenue, Kenosha, Wisconsin
WDNR FID 230004500, BRRTS #02-30-000327
AECOM Project No. 60328684**

Dear Ms. Billingsley,

AECOM Technical Services, Inc. (AECOM) has prepared this letter for the City of Kenosha to document the results of the laboratory scale treatability study activities performed for the former Kenosha Engine Plant (KEP). A *Work Plan for the Pre-Design (treatability) Studies for Groundwater Treatment* was prepared and submitted to the Wisconsin Department of Natural Resources (WDNR) on April 15, 2015. The WDNR subsequently approved the Work Plan on April 22, 2015. The treatability testing activities were performed in general accordance with the approved Work Plan unless otherwise noted.

The approved *Remedial Action Options Report* (RAOR, AECOM, April 2015) identified in-situ chemical reduction, using in-situ chemical oxidation (ISCO) and/or enhanced reductive dechlorination (ERD), as the likely most technically and economically feasible alternative to address source area groundwater impacts at the KEP. The RAOR further presented that additional pre-design data collection and testing (laboratory treatability and field scale) was necessary to confirm the anticipated effectiveness of in-situ chemical methods and to gather the information needed to complete the remedial design. The purpose of this submittal is to document the results of the laboratory scale treatability study. These results will be used to aid in the development of field scale pilot testing activities and future remedial design activities.

ISCO Laboratory Scale Treatability Testing

ISCO laboratory scale treatability testing was conducted in May and June 2015 to evaluate the effectiveness of various oxidant treatment chemistries and to estimate the appropriate oxidant loading rates for the destruction of contaminants of primary concern at the site (VOCs) consistent with the established remedial objectives as described in the RAOR. The following provides a summary of the sample collection, testing/analyses activities, and general results.

Sample Collection

Five soil borings (CS3-TX-1, CS3-TX-2, CS3-TX-3, CS3-TX-4, and CS3-TX5) were advanced on May 14 and May 15, 2015 at the locations shown on Figure 1. TX-1 to TX-3 borings were advanced within CS3, TX-4 within CS4, and TX-5 within CS8 along the western edge of CS4. These boring locations were selected to represent the area identified in the RAOR for possible source area groundwater treatment. Two four-foot long macro-core soil samples were collected from each boring location and were submitted to ORIN Remedial Technologies, LLC (ORIN) for laboratory scale testing. The soil cores were collected from both the shallow (10 to 14 feet bgs) and deep (17-21 feet bgs or 18-22 feet bgs) saturated soil intervals based on the zone of impacts identified during the site investigation activities. Groundwater samples were collected from MW-61, PZ-61, MW-74, PZ-74, MW-302, PZ-302, and CS3-TX-3 for use during the laboratory scale testing. Additional push probes were advanced near each boring location for collection of additional soil and to allow for soil characterization and screening. Soil boring logs and borehole abandonment forms are included as Attachment A.

In addition to the treatability sampling, AECOM collected one soil from the shallow and deep soil intervals at each boring location (TX-1 through TX-5) to assess baseline saturated soil concentrations. The samples were submitted to Pace Analytical for VOC analysis by SW-846 method 8260. The results of the analysis are included on Table 1. The laboratory analytical report is provided as Attachment B.

ISCO Laboratory Scale Study

The first phase of the laboratory scale treatability study performed by ORIN was to assess the total oxidant demand (TOD) of the impacted saturated soil at the KEP. The objective of the TOD study was to evaluate the amount of persulfate (in the form of sodium persulfate) and the amount of permanganate (in the form of potassium permanganate) required to oxidize natural and anthropogenic sources of organic compounds in site soil and groundwater. The TOD testing involved dosing soils with a known amount of oxidant and then measuring the residual concentration over a period of six days. The ratio of the amount of oxidant consumed to the amount of soil it was in contact with provides the TOD.

Based on the TOD and VOC results, samples TX-2 (18 –22), TX-3 (10 – 14), and TX-5 (10 – 14) were chosen for laboratory scale treatability testing. The objective of this treatability study is to assess the treatment chemistry for the destruction of the primary contaminants at the KEP that is expected to achieve the remedial objectives during full-scale remedial implementation. During the study, ORIN evaluated several potential treatment chemistries including:

- Alkaline Persulfate
- Sodium Persulfate / Iron Activation
- Alkaline Persulfate/ Calcium Peroxide
- Sodium Permanganate
- RegenOx™.

Oxidant loading rates utilized during the treatability testing were selected based on the information collected during the TOD portion of the study. After dosing a slurry of the soil and groundwater and allowing the treated samples to react for a period of eleven days, the treated samples were then analyzed and compared to the untreated control sample to determine the most effective treatment chemistry.

Details regarding the testing methods and procedures are included in the ORIN *Total Oxidant Demand Testing and Treatability Testing* report included as **Attachment C**.

Results

The treatability study concluded that sodium permanganate is the more effective treatment chemistry of the five evaluated for destruction of chlorinated VOCs at the KEP. Based on the testing performed, a chemical loading rate of 3 g/kg would likely be a feasible and cost-effective option. The remaining four treatment chemistry options evaluated had inconclusive results for success in treating the chlorinated VOCs.

ERD Microcosm Study

An in-situ microcosm study was conducted from May 2015 to July 2015 to evaluate the ability of carbon substrates to stimulate native bacteria capable of biodegrading chlorinated VOCs. The purpose of the microcosm study was to evaluate and select a substrate for use in pilot testing ERD at the KEP. Two carbon substrates were evaluated during this study: (1) Edible Oil Substrate (EOS) which is a proprietary blend of vegetable oil and nutrients and (2) ABC®+ which contains a mixture of lactate, fatty acids, alcohols, phosphate buffer, and zero-valent iron. The following provides a summary of the sample collection, testing/analyses activities, and general results:

Sample Collection

Bio-Trap® passive samplers were deployed on May 19, 2015 into several well locations at the KEP to collect microbes over time to study the biodegradation potential at the site. The following well locations were utilized: MW-65, MW-82, MW-302, PZ-301, and PZ-302. These well locations were selected to represent the chlorinated VOC concentrations indicative of the area identified in the RAOR for possible source area groundwater treatment. Two to three Bio-Trap® samplers were deployed in each well, depending on the length of the water column present within the wells screened interval (i.e. two Bio-Traps® in piezometers with 5 foot screens). One sampler was used to evaluate one of the substrates (i.e., either EOS or ABC®+) and contained beads soaked in the substrate to be evaluated. The second sampler acted as a control (i.e., no substrate was added). The samplers were suspended from the expandable caps of each monitoring well or piezometer such that they were completely submerged in water, with the control microcosm placed at a shallower depth than the treatment microcosm.

After incubating in the wells for approximately two months (i.e., May 19 through July 20, 2015), the samplers were removed and shipped on ice to Microbial Insights (MI) in Knoxville, Tennessee for analysis.

ERD Microcosm Study

MI extracted DNA from the beads and used molecular biological techniques to detect and quantify specific bacteria and genes involved in the biodegradation of TCE. MI also analyzed water from the passive samplers for VOCs, electron acceptors (i.e., nitrate, nitrite, and sulfate), volatile fatty acids (i.e., acetic, propionic, pyruvic, butyric, and lactic acid), dissolved gases (i.e., methane, ethane, and ethane), phosphate, and chloride. The results of the molecular biological testing and analysis of VOCs, geochemistry, and dissolved gas analysis in substrate-amended microcosms were compared to the results in control microcosms to assess the level to which the substrates stimulated ERD.

Details regarding the testing methods and procedures are included in the Microbial Insights *In Situ Microcosm Study* report is provided as Attachment D.

Results

In general, addition of substrate provided minimal stimulation of the *Dehalococcoides* (DHC) population size. The DHC population size in treated microcosms was generally less than an order of magnitude greater than in control microcosms, indicating a relatively low level of stimulation by the substrate provided. The DHC population size in control and treated microcosms ranged from below the detection limit of $2.5 \times 10^{+1}$ cells per bead (PZ-302 control microcosm) to $1.1 \times 10^{+4}$ cells per bead (PZ-301 control microcosm). This is generally below the DHC population of 10^{+4} cells per milliliter (cells/mL) that is often used as a criterion for providing “generally useful” rates of reductive dechlorination. Despite the low numbers of DHC and ERD functional genes, the populations of sulfate-reducing bacteria (SRB) and methanogens (MGN) in general increased in response to the addition of substrate.

Overall the presence of soluble substrate did promote establishment of anaerobic, reducing conditions as evidenced by stimulation of SRB and MGN populations. However, DHC populations (and the number of ERD functional genes) did not increase due to the presence of soluble substrate during the 62-day microcosm study. Based on the results of the microcosm study, bioaugmentation with a known DHC culture may be necessary for ERD to be successful.

Conclusions and Recommendations

The results of the treatability studies indicate that both ISCO and ERD remain potentially effective groundwater treatment methods for use at the KEP. Although ISCO was demonstrated to be effective in a laboratory setting, field scale testing is needed to assess full-scale effectiveness, evaluate implementability and gather the necessary information to design the overall remedy. Based on the ISCO treatability studies, AECOM recommends performance of a field scale pilot test using sodium permanganate as the oxidant. Additionally, based on the results of the microcosm study, bioaugmentation with a known DHC culture may be necessary for ERD to be successful. As such, an ERD pilot test using bioaugmentation is also recommended. A detailed work plan is being developed.

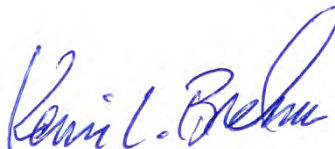
Should you have any questions or comments regarding the results or activities related to this letter, please do not hesitate to contact Lanette Altenbach at (414) 944-6186.

Yours sincerely,

AECOM Technical Services, Inc.



Lanette L. Altenbach, P.G., C.P.G.
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Kevin L. Brehm, P.E.
Principal Engineer
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Attachments:

Figure 1 – ISCO and ERD Treatability Sample Locations

Table 1 – Baseline Soil VOC Analytical Results

Attachment A – Soil Boring Logs and Abandonment Forms

Attachment B – Soil VOC Laboratory Analytical Report (Pace, May 2015)

Attachment C – Total Oxidant Demand Testing and Treatability Testing Report (ORIN, August 2015)

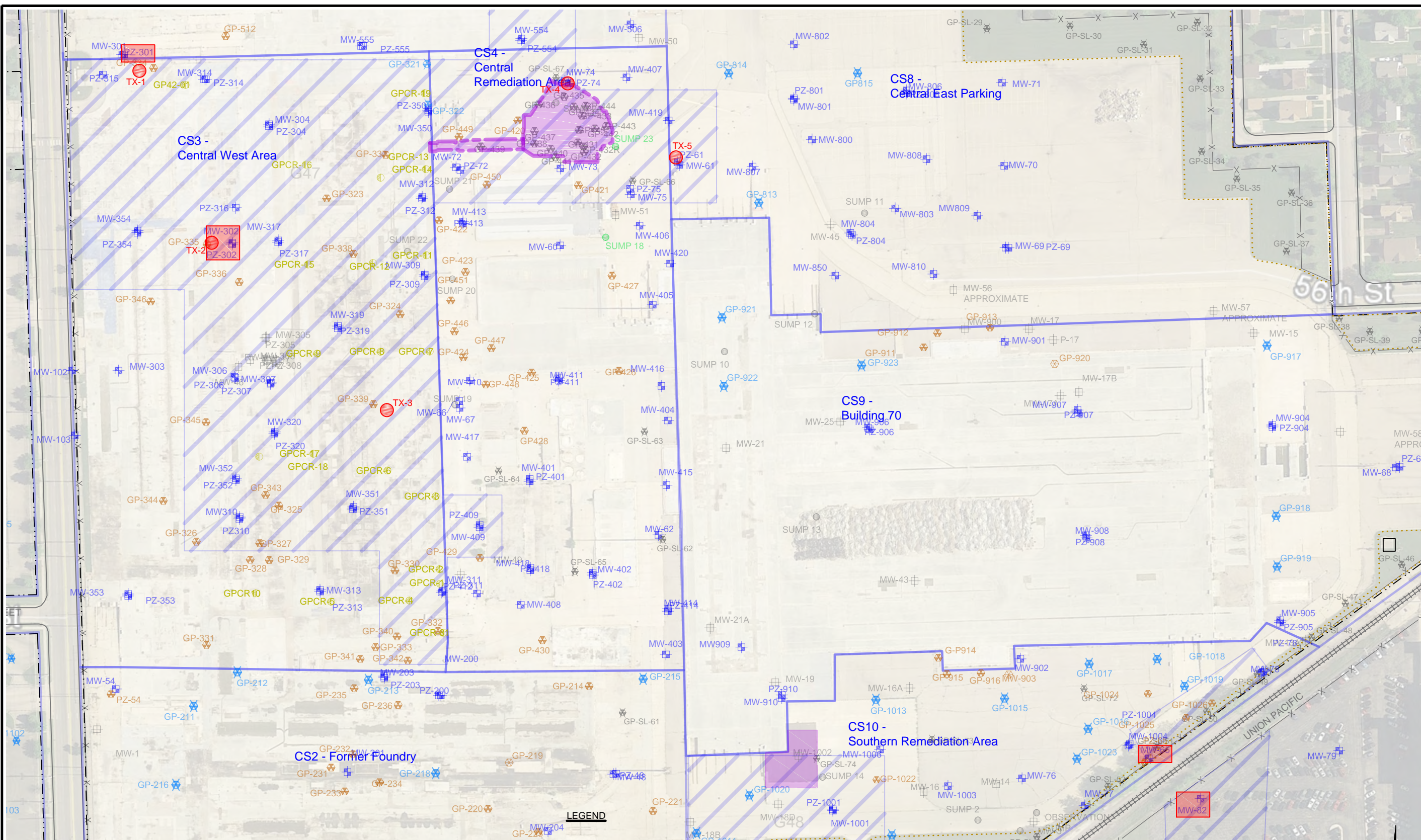
Attachment D – In Situ Microcosm Study (Microbial Insights, August, 2015)

CC: Mr. Dave Volkert, Wisconsin Department of Natural Resources, 141 NW Barstow Street,
Waukesha, WI 53188
Kyle Rogers, Brownfields Project Manager, U.S. EPA Region V

FIGURE

ISCO AND ERD TREATABILITY SAMPLE LOCATIONS
KENOSHA ENGINE PLANT
CITY OF KENOSHA
KENOSHA, WISCONSIN

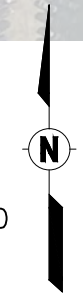
I:\USM\W\1FS001\prod\Data\Projects\60328684\900_Work\CADD\TREATABILITY\KEP - Treatability Investigation - 2015.August.dwg; 8/18/2015 10:48:06 AM; ENGELHARDT, SARAH;



NOTES

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO, IMAGE DATED 6/2/2015; DOWNLOADED ON 8/10/2015.
2. BORDER DISCONTINUITIES ARE DUE TO ANGLE OF 2015 AERIAL.

	APPROXIMATE SITE BOUNDARY		EXISTING WATER TABLE MONITORING WELL (MW) OR PIEZOMETER (PZ)		SOIL PROBE / TEMPORARY MONITORING WELLS - INTERIM INVESTIGATION (GP-SL-XX)
	RAILROAD		ABANDONED MONITORING WELL (MW) OR PIEZOMETER (PZ)		ISCO SAMPLE COLLECTION POINT
	FORMER BUILDING		SOIL PROBE		ERD SAMPLE COLLECTION POINT
	INVESTIGATION AREA		SOIL PROBE - REFUSAL		
	CONCEPTUAL INSITU GROUNDWATER TREATMENT (AND SATURATED SOIL IMPACTS)		SOIL PROBE / TEMPORARY MONITORING WELLS - PHASE II INVESTIGATION		
	PRIOR EXCAVATION AREAS				



Drawn :	SAE 8/18/2015
Checked:	LLA 8/18/2015
Approved:	KWB 8/18/2015
PROJECT NUMBER	60328684
FIGURE NUMBER	1

TABLE

Table 1
Baseline Soil VOC Analytical Results
Kenosha Engine Plant

Parameters	Generic RCLs			CS3-TX-1	CS3-TX-1	CS3-TX-2	CS3-TX-2	CS3-TX-3	CS3-TX-3	CS3-TX-4	CS3-TX-4	CS3-TX-5	CS3-TX-5
	Direct Contact Pathway		Groundwater Pathway	10-14	17-21	10-14	18-22	10-14	17-21	10-14	18-22	10-14	18-22
	Non-Industrial	Industrial		05/14/15	05/14/15	05/15/15	05/15/15	05/14/15	05/14/15	05/15/15	05/15/15	05/15/15	05/15/15
VOCs (µg/kg)													
1,1,1,2-Tetrachloroethane	2,590	12,900	53.4	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,1,1-Trichloroethane	640,000	640,000	140.2	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,1,2,2-Tetrachloroethane	753	3,690	0.2	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,1,2-Trichloroethane	1,480	7,340	3.2	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,1-Dichloroethane	4,720	23,700	482.8	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,1-Dichloroethene	342,000	1,190,000	5	<50	<250	<50	<312	<100	<50	41.2^{J C}	<100	<25	<200
1,1-Dichloropropene	--	--	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2,3-Trichlorobenzene	48,900	493,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2,3-Trichloropropane	5	95	51.9	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2,4-Trichlorobenzene	22,000	98,700	408	<95.1	<476	<95.1	<594	<190	<95.1	<47.6	<190	<47.6	<380
1,2,4-Trimethylbenzene	89,800	219,000	1382.1	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2-Dibromo-3-chloropropane	8	99	0.2	<182	<912	<182	<1140	<365	<182	<91.2	<365	<91.2	<730
1,2-Dibromoethane (EDB)	47	230	0.0282	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2-Dichlorobenzene	376,000	376,000	1168	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2-Dichloroethane	608	3,030	2.8	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,2-Dichloropropane	1,330	6,620	3.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,3,5-Trimethylbenzene	182,000	182,000	1382.1	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,3-Dichlorobenzene	297,000	297,000	1152.8	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,3-Dichloropropane	1,490,000	1,490,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
1,4-Dichlorobenzene	3,480	17,500	144	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
2,2-Dichloropropane	527,000	527,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
2-Chlorotoluene	907,000	907,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
4-Chlorotoluene	253,000	253,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Benzene	1,490	7,410	5.1	<50	<250	<50	<312	<100	<50	<25	<100	172^C	<200
Bromobenzene	354,000	679,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Bromochloromethane	232,000	976,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Bromodichloromethane	390	1,960	0.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Bromoform	61,500	218,000	2.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Bromomethane	10,300	46,000	5.1	<140	<699	<140	<874	<280	<140	<69.9	<280	<69.9	<559
Carbon tetrachloride	854	4,250	3.9	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Chlorobenzene	392,000	761,000	135.8	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Chloroethane	2,120,000	2,120,000	226.6	<134	<670	<134	<838	<268	<134	<67	<268	<67	<536
Chloroform	423	2,130	3.3	<92.9	<464	<92.9	<581	<186	<92.9	<46.4	<186	<46.4	<372
Chloromethane	171,000	720,000	15.5	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
cis-1,2-Dichloroethene	156,000	2,040,000	41.2	706^C	920^C	1820^C	3290^C	8040^C	10600^C	7060^C	17700^C	4020^C	7990^C
cis-1,3-Dichloropropene	1,220,000	1,220,000	0.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200

Table 1
Baseline Soil VOC Analytical Results
Kenosha Engine Plant

Parameters	Generic RCLs			CS3-TX-1 10-14	CS3-TX-1 17-21	CS3-TX-2 10-14	CS3-TX-2 18-22	CS3-TX-3 10-14	CS3-TX-3 17-21	CS3-TX-4 10-14	CS3-TX-4 18-22	CS3-TX-5 10-14	CS3-TX-5 18-22
	Direct Contact Pathway		Groundwater Pathway	05/14/15	05/14/15	05/15/15	05/15/15	05/14/15	05/14/15	05/15/15	05/15/15	05/15/15	05/15/15
	Non-Industrial	Industrial		05/14/15	05/14/15	05/15/15	05/15/15	05/14/15	05/14/15	05/15/15	05/15/15	05/15/15	05/15/15
Dibromochloromethane	933	4,400	32	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Dibromomethane	35,000	151,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Dichlorodifluoromethane	135,000	571,000	3086.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Diisopropyl ether	2,260,000	2,260,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Ethylbenzene	7,470	37,000	1570	<50	<250	<50	<312	188 ^J	<50	<25	<100	<25	<200
Hexachlorobutadiene	6,220	22,100	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Isopropylbenzene (Cumene)	268,000	268,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
m&p-Xylene	388,000	388,000	3940	<100	<500	<100	<625	<200	<100	<50	<200	335	<400
Methyl-tert-butyl ether	59,400	293,000	27	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Methylene Chloride	60,700	1,070,000	2.6	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
n-Butylbenzene	108,000	108,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
n-Propylbenzene	264,000	264,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Naphthalene	5,150	26,000	658.2	<80.1	<400	<80.1	<501	<160	<80.1	<40	<160	<40	<320
o-Xylene	434,000	434,000	3940	<50	<250	<50	<312	<100	<50	<25	<100	73.2	<200
p-Isopropyltoluene	162,000	162,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
sec-Butylbenzene	145,000	145,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Styrene	867,000	867,000	220	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
tert-Butylbenzene	183,000	183,000	--	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Tetrachloroethene	30,700	153,000	4.5	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Toluene	818,000	818,000	1107.2	<50	<250	<50	<312	<100	<50	<25	<100	43.8 ^J	<200
trans-1,2-Dichloroethene	1,560,000	1,670,000	58.8	<50	<250	300 ^C	314 ^{J C}	<100	233 ^C	30 ^J	354 ^C	<25	257 ^{J C}
trans-1,3-Dichloropropene	1,570,000	1,570,000	0.3	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Trichloroethene	1,260	8,810	3.6	4130 ^{AC}	41700 ^{ABC}	6490 ^{AC}	51600 ^{ABC}	10700 ^{ABC}	5020 ^{AC}	<25	<100	45.9 ^{J C}	24800 ^{ABC}
Trichlorofluoromethane	1,120,000	1,230,000	4475.8	<50	<250	<50	<312	<100	<50	<25	<100	<25	<200
Vinyl chloride	67	2,030	0.1	<50	<250	101 ^{J AC}	<312	1270 ^{AC}	1140 ^{AC}	447 ^{AC}	1210 ^{AC}	486 ^{AC}	<200

Notes:

VOCs = Volatile Organic Compounds

ug/kg = Micrograms per kilogram.

^A = Parameter exceeds Generic RCL for Non-Industrial Direct Contact.

^B = Parameter exceeds Generic RCL for Industrial Direct Contact.

^C = Parameter exceeds Generic RCL for Groundwater Pathway.

^J = Estimated concentration between the Method Detection Limit (MDL) and Reporting Limit (RL)

-- = No generic RCL established.

Generic RCLs Jan 2015 per WDNR PUB-RR-890.

ATTACHMENT A


Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP			License/Permit/Monitoring Number		Boring Number CS3-TX-1	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental			Date Drilling Started 5/14/2015	Date Drilling Completed 5/14/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name CS3-TX-1	Final Static Water Level Feet MSL		Surface Elevation Feet MSL	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane N, E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
1/4 of		1/4 of Section		T N, R		

Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha
-------------	--------------------------	--------------------------	---

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	60 44		0-2	Concrete	Concrete										
				Silty sand with little clay, dark grayish brown, low plasticity, noncohesive	SM										
2	60 50		2-4	Fine grained sand, trace fine to medium gravel, black with few tan colored seams, poorly graded	SP										
				Silt with clay, dark gray, moist, medium, cohesive, plasticity	ML										
				Silt, little clay, light gray with tan mottles, medium, firm, plasticity	ML										
3	60 54		4-6	Silt with clay transitioning to fine sand, brown, very moist, medium, medium plasticity	ML										
				Fine silty sand, gray, wet, soft, noncohesive, poorly graded	SM										
4	60 58		6-8	Fine to medium sand, gray, wet, nonplastic, poorly graded	SP										
				Silt, gray, hard, compact, nonplastic	ML										
5	12 12		8-20	Clay with some silt, little fine to medium grained gravel, gray, very hard, low plasticity	CL										
				End of Boring at 21.0 ft.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm AECOM	Tel: Fax:
--	----------------------	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number CS3-TX-2	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental		Date Drilling Started 5/15/2015	Date Drilling Completed 5/15/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name CS3-TX-2		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of	1/4 of Section	T	N, R	Long _____ "	Feet <input type="checkbox"/> S <input type="checkbox"/> W

Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha
-------------	--------------------------	--------------------------	---

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	60 20		0-2	Concrete slab	Concrete										
				Fill: Coarse sand with gravel, gray	Fill										
2	60 33		2-4	Fill: Medium grained sand with few coarse grained sands and little gravel, light brown	Fill										
				Fill: Silty sand, trace small gravel, dark brown to black	Fill										
3	60 49		4-6	Fill: Silty clay, gray, moist, medium plasticity, cohesive, trace organic matter (weed)	Fill										
				Medium grained sand, dark gray, wet, poorly graded	SP										
4	60 60		6-18	Fine grained silty sand, gray, wet	SM										
				Silty clay, gray, medium plasticity with few small to medium grained gravel, hard	CL										
5	24 20		18-22	End of Boring at 22.0 ft.											

Note: This log is representative of the 3 boreholes advanced in the same area to collect sufficient sample volume for bench scale testing. A separate abandonment form is provided for each boring.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature 	Firm AECOM	Tel: Fax:
---------------	----------------------	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number CS3-TX-3	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental			Date Drilling Started 5/14/2015	Date Drilling Completed 5/14/2015	Drilling Method geoprobe
WI Unique Well No.	DNR Well ID No.	Common Well Name CS3-TX-3	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 2.00 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N 1/4 of 1/4 of Section , T N, R			Local Grid Location Lat _____ " _____ " Long _____ " _____ " Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	60 32		0	Concrete	Concrete										
				Fill: Coarse sand and gravel, gray	Fill										
2	60 54		2	Fill: Silty sand, black, fine grained, few medium to coarse grained sand, strong odor	Fill										
			4	Fill: Silt, black, firm, trace fine grained gravel deposits, faint odor	Fill										
			6	Fill: Silt with some clay, gray, firm, medium plasticity	Fill										
3	60 53		8	Fill: Silt with little fine grained sand, mixed matrix color of tan and gray, firm, low plasticity	Fill										
			10	Sandy silt with some clay, fine grained sand, moist to wet	ML										
4	60		12	Sand, gray, wet, fine to medium grained, poorly graded	SP										
			14												
5	12 12		16	Silty sand, gray, hard, fine grained	SM										
			18	Clay with some silt and little fine to medium grained gravel, gray, hard, medium plasticity	CL										
			20	End of Boring at 21.0 ft.											

Note: This log is representative of the 3 boreholes advanced in the same area to collect sufficient sample volume for bench scale testing. A separate abandonment form is provided for each boring.

I hereby certify that the information on this form is true and correct to the best of my knowledge.


Signature Firm AECOM Tel: _____ Fax: _____

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number CS3-TX-4	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental		Date Drilling Started 5/15/2015	Date Drilling Completed 5/15/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name CS3-TX-4		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane N, E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of		1/4 of Section		T N, R	
Facility ID		County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	60 31		2	Concrete	Concrete										
				Fill: Sandy Silt with poorly graded fine grained sand, black, moist, trace small grained gravel, some light gray and tan colors, poorly graded, low plasticity	Fill										
2	60 47		6	Fill: Clay with silt, gray, moist, little fine grained sand, fairly soft, medium plasticity, strong odor	Fill										
				Fine to medium grained sand, tan, very moist	SP										
3	60 50		10	Fine to medium grained sand, gray, wet, poorly graded											
					SP										
4	60 56		16												
5	24 22		20	Clay with some silt, little small to medium grained gravel, gray, firm, medium to high plasticity, cohesive	CL										
				End of Boring at 22.0 ft.											
				Note: This log is representative of the 3 boreholes advanced in the same area to collect sufficient sample volume for bench scale testing. A separate abandonment form is provided for each boring.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.


Signature 	Firm AECOM	Tel: Fax:
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number CS3-TX-5	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental		Date Drilling Started 5/15/2015	Date Drilling Completed 5/15/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name CS3-TX-5		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane N, E S/C/N		Local Grid Location	
1/4 of	1/4 of Section	T	N, R	Lat _____ "	Long _____ "
Facility ID		County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	60 46		0-2	Concrete	Concrete									
				Fill: Gravel with well graded sand, gray, nonplastic	Fill									
				Fill: Silty sand, black, moist, well graded, nonplastic	Fill									
				Fill: Silty sand, dark gray, moist, fine grained sand, low plasticity, noncohesive	Fill									
2	60 50		2-6	Fill: Sandy silt with little clay, few, gravel, light gray with brown, moist, soft, low plasticity, well graded	Fill									
				Fill: Clay with trace fine sand, light gray with light tan, moist, firm, medium to high plasticity, cohesive	Fill									
3	60 47		6-10	Fine to medium grained sand, gray, wet, poorly graded										
					SP									
4	60 55		10-18											
5	24 20		18-22	Sandy silt, fine sand, gray, wet	ML									
				Clay with silt, dark gray, hard, medium plasticity, cohesive	CL									
				End of Boring at 22.0 ft.										
				Note: This log is representative of the 3 boreholes advanced in the same area to collect sufficient sample volume for bench scale testing. A separate abandonment form is provided for each boring.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature  Firm AECOM Tel: _____ Fax: _____

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP			License/Permit/Monitoring Number		Boring Number WC-1	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental			Date Drilling Started 5/15/2015	Date Drilling Completed 5/15/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name WC-1	Final Static Water Level Feet MSL		Surface Elevation Feet MSL	Borehole Diameter 2.00 inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N			Lat _____ " _____ "		Local Grid Location	
1/4 of _____ 1/4 of Section _____, T _____ N, R _____			Long _____ " _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties						RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	48			Concrete slab	Concrete										
			2	Fill: Coarse sand and gravel, gray, transitions to brown	Fill										
			4	Fill: Fine sand, black, medium grained, noncohesive, poorly graded	Fill										
				Fill: Clay with silt, black, some gray and tan, medium plasticity	Fill										
				End of Boring at 4.0 ft.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Firm AECOM Tel: _____ Fax: _____

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number WC-2	
Boring Drilled By: Name of crew chief (first, last) and Firm Dusty Harvey On-Site Environmental		Date Drilling Started 5/15/2015	Date Drilling Completed 5/15/2015	Drilling Method geoprobe	
WI Unique Well No.	DNR Well ID No.	Common Well Name WC-2		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane N, E S/C/N		Local Grid Location Lat _____ " <input type="checkbox"/> N <input type="checkbox"/> E Long _____ " <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of	1/4 of Section	T	N, R	Feet	Feet
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1	60 36		2 4	Concrete	Concrete									
				Fill: Sandy silt, fine gravel, brown	Fill									
				Fill: Medium to coarse sand, brown, little gravel	Fill									
				Fill: Crushed concrete	Fill									
				Fill: Coarse sand with gravel, brown	Fill									
				Fill: Gravel with some fine to coarse grained sand, black	Fill									
				End of Boring at 5.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Firm: AECOM
Tel: _____ Fax: _____

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to:		
	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Watershed/Wastewater	<input checked="" type="checkbox"/> Remediation/Redevelopment
	<input type="checkbox"/> Waste Management	<input type="checkbox"/> Other: _____	

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
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1/4 / 1/4 or Gov't Lot #	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner
					Present Well Owner

Well Street Address 5555 30th Avenue	Mailing Address of Present Owner 625 52nd Street - Room 305	
Well City, Village or Town Kenosha	Well ZIP Code 53140	
Subdivision Name Kenosha	Lot # _____	
City of Present Owner Kenosha	State WI	ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
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3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole	Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original Construction Date (mm/dd/yyyy) 05/14/2015	Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If a Well Construction Report is available, please attach.	Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type:	Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Drilled	Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Driven (Sandpoint)	If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Dug	If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>	

Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
Total Well Depth From Ground Surface (ft.) 21 ft	Casing Diameter (in.) -
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
If yes, to what depth (feet)?	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
Depth to Water (feet) 9.0 ft	

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	21.0 ft	0.5 bag	-

6. Comments
CS3-TX-1 Boring 1

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/14/2015	Date Received	Noted By
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i> AECOM	Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

Drinking Water Watershed/Wastewater Remediation/Redevelopment

Waste Management Other: _____

1. Well Location Information			2. Facility / Owner Information		
County Kenosha	WI Unique Well # of Removed Well	Hicap #	Facility Name Kenosha Engine Plant		

Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)	
_____ ' N		_____	
_____ ' W		_____	

1/4 / 1/4	1/4	Section	Township	Range	<input type="checkbox"/> E
or Gov't Lot #			N		<input type="checkbox"/> W

Well Street Address 5555 30th Avenue		Well ZIP Code 53140	
Well City, Village or Town Kenosha		Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha		City of Present Owner Kenosha	State WI
		ZIP Code 53140	

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well
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3. Well / Drillhole / Borehole Information		4. Pump, Liner, Screen, Casing & Sealing Material	
<input type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 05/14/2015	Pump and piping removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.	Liner(s) removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole		Screen removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type:		Casing left in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Drilled	<input type="checkbox"/> Driven (Sandpoint)	Was casing cut off below surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify):	Direct Push	Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
		Did material settle after 24 hours?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
		If yes, was hole retopped?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
		If bentonite chips were used, were they hydrated with water from a known safe source?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Formation Type:		Required Method of Placing Sealing Material	
<input checked="" type="checkbox"/> Unconsolidated Formation	<input type="checkbox"/> Bedrock	<input type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped
Total Well Depth From Ground Surface (ft.) 21 ft	Casing Diameter (in.) -	<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips)	<input type="checkbox"/> Other (Explain): _____
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Sealing Materials	
Was well annular space grouted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)
If yes, to what depth (feet)?	Depth to Water (feet) 9.0 ft	<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "
		<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Bentonite Chips

For Monitoring Wells and Monitoring Well Boreholes Only:	
<input type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole			
3/8 inch bentonite chips	From (ft.) Surface	To (ft.) 21.0 ft	No. Yards, Sacks Sealant or Volume (circle one) 0.5 bag
			Mix Ratio or Mud Weight -

6. Comments

CS3-TX-1 Boring 2

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License #	Date of Filling & Sealing (mm/dd/yyyy) 05/14/2015	Date Received	Noted By
Street or Route P.O. Box 280		Telephone Number (608) 837-8992	Comments	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015
			AECOM	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to:		
	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Watershed/Wastewater	<input checked="" type="checkbox"/> Remediation/Redevelopment
	<input type="checkbox"/> Waste Management	<input type="checkbox"/> Other: _____	

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
--	---

1/4 / 1/4 or Gov't Lot #	1/4	Section	Township N	Range N	<input type="checkbox"/> E <input type="checkbox"/> W
Well Street Address 5555 30th Avenue			Original Well Owner		
Well City, Village or Town Kenosha			Present Well Owner		

Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305			
Subdivision Name Kenosha	Lot #	City of Present Owner Kenosha	State WI	ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
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3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Original Construction Date (mm/dd/yyyy) 05/14/2015 If a Well Construction Report is available, please attach.	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
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Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
--	---

Total Well Depth From Ground Surface (ft.) 21 ft	Casing Diameter (in.) -	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
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Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If yes, to what depth (feet)? _____
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5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	21.0 ft	0.5 bag	-

6. Comments
CS3-TX-1 Boring 3

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License #	Date of Filling & Sealing (mm/dd/yyyy) 05/14/2015	Date Received	Noted By
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pirrung</i> AECOM	Date Signed 5/28/2015

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<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Remediation/Redevelopment
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1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____	Original Well Owner _____
1/4 / 1/4 or Gov't Lot #	Section _____	Township N
		Range <input type="checkbox"/> E <input type="checkbox"/> W

Well Street Address 5555 30th Avenue	Present Well Owner _____
Well City, Village or Town Kenosha	Mailing Address of Present Owner 625 52nd Street - Room 305
Well ZIP Code 53140	City of Present Owner Kenosha
Subdivision Name Kenosha	State WI
Lot # _____	ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
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3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original Construction Date (mm/dd/yyyy) 05/14/2015	Required Method of Placing Sealing Material
If a Well Construction Report is available, please attach. _____	<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>	Sealing Materials
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips

Total Well Depth From Ground Surface (ft.) 21 ft	Casing Diameter (in.) -	For Monitoring Wells and Monitoring Well Boreholes Only:
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	<input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Depth to Water (feet) 8.0 ft	

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	21.0 ft	0.5 bag	-

6. Comments
CS3-TX-3 Boring 1

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/14/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Puring</i>	Date Signed 5/28/2015
			AECOM	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Remediation/Redevelopment
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1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
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1/4 / 1/4 or Gov't Lot #	1/4	Section	Township N	Range E W	Original Well Owner _____
Well Street Address 5555 30th Avenue					Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI
		ZIP Code 53140	

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material	
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3. Well / Drillhole / Borehole Information	Original Construction Date (mm/dd/yyyy) 05/15/2015	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
---	---	---

Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>	If a Well Construction Report is available, please attach. _____	Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
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Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
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Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	Depth to Water (feet) 10.0 ft	

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	22.0 ft	0.5 bag	-

6. Comments
CS3-TX-2 Boring 1

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Remediation/Redevelopment
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1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
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1/4 / 1/4 or Gov't Lot #	1/4	Section	Township	Range	<input type="checkbox"/> E <input type="checkbox"/> W
Well Street Address 5555 30th Avenue					

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	Original Well Owner _____
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	Present Well Owner _____
Reason For Removal From Service Temporary borehole		State WI	ZIP Code 53140

WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material
---	--

3. Well / Drillhole / Borehole Information <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
--	--

Original Construction Date (mm/dd/yyyy) 05/15/2015 If a Well Construction Report is available, please attach.	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
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Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
--	--

Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
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Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If yes, to what depth (feet)? _____
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5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	22.0 ft	0.5 bag	-

6. Comments
CS3-TX-2 Boring 2

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Remediation/Redevelopment
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1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
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¼ / ¼ or Gov't Lot #	¼	Section	Township N	Range E W	Original Well Owner _____
Well Street Address 5555 30th Avenue					Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material	
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3. Well / Drillhole / Borehole Information	Original Construction Date (mm/dd/yyyy) 05/15/2015	<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole
If a Well Construction Report is available, please attach. _____		

Construction Type:	<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>
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Formation Type:	<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock
Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -

Was well annular space grouted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
If yes, to what depth (feet)?	Depth to Water (feet) 10.0 ft

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	22.0 ft	0.5 bag	-

6. Comments
CS3-TX-2 Boring 3

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License #	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received	Noted By	
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments		
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i> AECOM		Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to:		
	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Watershed/Wastewater	<input checked="" type="checkbox"/> Remediation/Redevelopment
	<input type="checkbox"/> Waste Management	<input type="checkbox"/> Other: _____	

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
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1/4 / 1/4 or Gov't Lot #	1/4	Section	Township	Range	<input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner _____
Well Street Address 5555 30th Avenue						Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	
Subdivision Name Kenosha	Lot # _____	
Mailing Address of Present Owner 625 52nd Street - Room 305		
City of Present Owner Kenosha	State WI	ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
---	---

3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole	Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original Construction Date (mm/dd/yyyy) 05/15/2015	Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If a Well Construction Report is available, please attach.	Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type:	Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Drilled	Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
<input type="checkbox"/> Driven (Sandpoint)	If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Dug	If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify): Direct Push	

Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
--	--

Total Well Depth From Ground Surface (ft.) 21 ft	Casing Diameter (in.) -
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	

If yes, to what depth (feet)? 8.0 ft	Depth to Water (feet) 8.0 ft
---	---------------------------------

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	21.0 ft	0.5 bag	-

6. Comments
CS3-TX-3 Boring 2

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280		Telephone Number (608) 837-8992	Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015
			AECOM	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

Drinking Water Watershed/Wastewater Remediation/Redevelopment

Waste Management Other: _____

1. Well Location Information			2. Facility / Owner Information		
County Kenosha	WI Unique Well # of Removed Well	Hicap #	Facility Name Kenosha Engine Plant		

Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)	
_____ ' N		_____	
_____ ' W		_____	

1/4 / 1/4	1/4	Section	Township	Range	<input type="checkbox"/> E
or Gov't Lot #			N		<input type="checkbox"/> W

Well Street Address 5555 30th Avenue		Well ZIP Code 53140	
Well City, Village or Town Kenosha		Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha		City of Present Owner Kenosha	State WI
		ZIP Code 53140	

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well
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3. Well / Drillhole / Borehole Information		4. Pump, Liner, Screen, Casing & Sealing Material	
<input type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 05/15/2015	Pump and piping removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.	Liner(s) removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole		Screen removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Construction Type:		Casing left in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Drilled	<input type="checkbox"/> Driven (Sandpoint)	Was casing cut off below surface?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify): Direct Push	<input type="checkbox"/> Dug	Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Formation Type:		Did material settle after 24 hours?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Unconsolidated Formation	<input type="checkbox"/> Bedrock	If yes, was hole retopped?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	If bentonite chips were used, were they hydrated with water from a known safe source?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Required Method of Placing Sealing Material	
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	If yes, to what depth (feet)? 9.0 ft	<input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____	

Sealing Materials	
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "
<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Bentonite Chips
For Monitoring Wells and Monitoring Well Boreholes Only:	
<input type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole			
3/8 inch bentonite chips	From (ft.) Surface	To (ft.) 22.0 ft	No. Yards, Sacks Sealant or Volume (circle one) 0.5 bag
			Mix Ratio or Mud Weight -

6. Comments

CS3-TX-4 Boring 1

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License #	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received	Noted By
Street or Route P.O. Box 280		Telephone Number (608) 837-8992	Comments	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i> AECOM	Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____	<input checked="" type="checkbox"/> Remediation/Redevelopment
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1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____ ° ____ ' N ____ ° ____ ' W	Method Code (see instructions) _____
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¼ / ¼ or Gov't Lot #	Section	Township N	Range	<input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner _____
Well Street Address 5555 30th Avenue					Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI
		ZIP Code 53140	

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
---	---

3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole	Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Original Construction Date (mm/dd/yyyy) 05/15/2015	Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
If a Well Construction Report is available, please attach.	Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>	Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
--	---

Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
--	--

Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
---	----------------------------	--	--

Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
--	-------------------------	--

If yes, to what depth (feet)? 9.0 ft	5. Material Used To Fill Well / Drillhole <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">From (ft.)</th> <th style="width:15%;">To (ft.)</th> <th style="width:25%;">No. Yards, Sacks Sealant or Volume (circle one)</th> <th style="width:45%;">Mix Ratio or Mud Weight</th> </tr> </thead> <tbody> <tr> <td>Surface</td> <td>22.0 ft</td> <td>0.5 bag</td> <td>-</td> </tr> </tbody> </table>	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight	Surface	22.0 ft	0.5 bag	-
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight						
Surface	22.0 ft	0.5 bag	-						

6. Comments
CS3-TX-4 Boring 2

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015
			AECOM	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input checked="" type="checkbox"/> Remediation/Redevelopment <input type="checkbox"/> Waste Management <input type="checkbox"/> Other: _____
---	---

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
--	---

1/4 / 1/4 or Gov't Lot #	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner
Well Street Address 5555 30th Avenue					Present Well Owner

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material	
---	---	--	--

3. Well / Drillhole / Borehole Information	Original Construction Date (mm/dd/yyyy) 05/15/2015	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
---	---	---

Construction Type: <input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>	If a Well Construction Report is available, please attach. _____	Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
--	---	---

Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
--	--

Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry

Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown	If yes, to what depth (feet)? 9.0 ft
--	---

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	22.0 ft	0.5 bag	-

6. Comments
CS3-TX-4 Boring 3

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivung</i>	Date Signed 5/28/2015

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

Drinking Water Watershed/Wastewater Remediation/Redevelopment

Waste Management Other: _____

1. Well Location Information			2. Facility / Owner Information		
County Kenosha	WI Unique Well # of Removed Well _____	Hicap # _____	Facility Name Kenosha Engine Plant	Facility ID (FID or PWS) _____	

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____	License/Permit/Monitoring # _____
--	---	--------------------------------------

1/4 / 1/4 or Gov't Lot #	1/4	Section	Township N	Range <input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner _____
Well Street Address 5555 30th Avenue					Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305	
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI
		ZIP Code 53140	

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material	
---	---	--	--

3. Well / Drillhole / Borehole Information		Pump and piping removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 05/15/2015	Liner(s) removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Water Well	If a Well Construction Report is available, please attach.	Screen removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input checked="" type="checkbox"/> Borehole / Drillhole		Casing left in place?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

Construction Type:		Was casing cut off below surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
<input type="checkbox"/> Drilled	<input type="checkbox"/> Driven (Sandpoint)	Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
<input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>		Did material settle after 24 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
		If yes, was hole retopped?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
		If bentonite chips were used, were they hydrated with water from a known safe source?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A

Formation Type:		Required Method of Placing Sealing Material			
<input checked="" type="checkbox"/> Unconsolidated Formation	<input type="checkbox"/> Bedrock	<input type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped		
Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	<input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips)	<input type="checkbox"/> Other (Explain): _____		

Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Sealing Materials			
Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown		<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)		
If yes, to what depth (feet)?	Depth to Water (feet) 9.0 ft	<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "		
		<input type="checkbox"/> Concrete	<input checked="" type="checkbox"/> Bentonite Chips		
		For Monitoring Wells and Monitoring Well Boreholes Only:			
		<input type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout		
		<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry		

5. Material Used To Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
3/8 inch bentonite chips	Surface	22.0 ft	0.5 bag	-

6. Comments

CS3-TX-5 Boring 1

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280		Telephone Number (608) 837-8992	Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015
			AECOM	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to:		
	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Watershed/Wastewater	<input checked="" type="checkbox"/> Remediation/Redevelopment
	<input type="checkbox"/> Waste Management	<input type="checkbox"/> Other: _____	

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
--	---

1/4 / 1/4 or Gov't Lot #	1/4	Section	Township N	Range N	<input type="checkbox"/> E <input type="checkbox"/> W
Well Street Address 5555 30th Avenue			Original Well Owner		
Well City, Village or Town Kenosha			Present Well Owner		

Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305			
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha	State WI	ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____
---	---

3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Original Construction Date (mm/dd/yyyy) 05/15/2015 If a Well Construction Report is available, please attach.	Required Method of Placing Sealing Material <input type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Other (Explain): _____
---	---

Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Chips
--	---

Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -	For Monitoring Wells and Monitoring Well Boreholes Only: <input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry
---	----------------------------	---

Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -	Was well annular space grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown If yes, to what depth (feet)? _____
--	-------------------------	---

5. Material Used To Fill Well / Drillhole 3/8 inch bentonite chips	From (ft.) Surface	To (ft.) 22.0 ft	No. Yards, Sacks Sealant or Volume (circle one) 0.5 bag	Mix Ratio or Mud Weight -
--	-----------------------	---------------------	--	------------------------------

6. Comments
CS3-TX-5 Boring 2

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280		Telephone Number (608) 837-8992		Comments _____
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i> AECOM	
			Date Signed 5/28/2015	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input checked="" type="checkbox"/> Verification Only of Fill and Seal	Route to:		
	<input type="checkbox"/> Drinking Water	<input type="checkbox"/> Watershed/Wastewater	<input checked="" type="checkbox"/> Remediation/Redevelopment
	<input type="checkbox"/> Waste Management	<input type="checkbox"/> Other: _____	

1. Well Location Information	2. Facility / Owner Information
County Kenosha	Facility Name Kenosha Engine Plant
WI Unique Well # of Removed Well _____	Facility ID (FID or PWS) _____
Hicap # _____	License/Permit/Monitoring # _____

Latitude / Longitude (Degrees and Minutes) ____° ____' ____" N ____° ____' ____" W	Method Code (see instructions) _____
--	---

1/4 / 1/4 or Gov't Lot #	Section	Township N	Range <input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner _____
Well Street Address 5555 30th Avenue				Present Well Owner _____

Well City, Village or Town Kenosha	Well ZIP Code 53140	Mailing Address of Present Owner 625 52nd Street - Room 305
Subdivision Name Kenosha	Lot # _____	City of Present Owner Kenosha
		State WI
		ZIP Code 53140

Reason For Removal From Service Temporary borehole	WI Unique Well # of Replacement Well _____	4. Pump, Liner, Screen, Casing & Sealing Material
---	---	--

3. Well / Drillhole / Borehole Information	<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole
Original Construction Date (mm/dd/yyyy) 05/15/2015	If a Well Construction Report is available, please attach. _____

Construction Type:	<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct Push</u>
--------------------	--

Formation Type:	<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock
Total Well Depth From Ground Surface (ft.) 22 ft	Casing Diameter (in.) -
Lower Drillhole Diameter (in.) 2.0 in	Casing Depth (ft.) -

Was well annular space grouted?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
If yes, to what depth (feet)?	Depth to Water (feet) 9.0 ft

5. Material Used To Fill Well / Drillhole	Required Method of Placing Sealing Material								
	<input type="checkbox"/> Conductor Pipe-Gravity <input checked="" type="checkbox"/> Screened & Poured (Bentonite Chips) <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Other (Explain): _____								
3/8 inch bentonite chips	Sealing Materials								
	<input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Bentonite-Sand Slurry " " <input checked="" type="checkbox"/> Bentonite Chips								
	For Monitoring Wells and Monitoring Well Boreholes Only:								
	<input type="checkbox"/> Bentonite Chips <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Bentonite - Sand Slurry								
	<table border="1" style="width:100%"> <tr> <th>From (ft.)</th> <th>To (ft.)</th> <th>No. Yards, Sacks Sealant or Volume (circle one)</th> <th>Mix Ratio or Mud Weight</th> </tr> <tr> <td>Surface</td> <td>22.0 ft</td> <td>0.5 bag</td> <td>-</td> </tr> </table>	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight	Surface	22.0 ft	0.5 bag	-
From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight						
Surface	22.0 ft	0.5 bag	-						

6. Comments
CS3-TX-5 Boring 3

7. Supervision of Work			DNR Use Only	
Name of Person or Firm Doing Filling & Sealing On-Site Environmental	License # _____	Date of Filling & Sealing (mm/dd/yyyy) 05/15/2015	Date Received _____	Noted By _____
Street or Route P.O. Box 280	Telephone Number (608) 837-8992		Comments _____	
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Andrew Pivring</i>	Date Signed 5/28/2015
			AECOM	

ATTACHMENT B

May 26, 2015

Lanette Altenbach
AECOM, Inc.- MILWAUKEE
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60328684-2 KEP TREATABILITY
Pace Project No.: 40114981

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on May 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christopher Hyska
christopher.hyska@pacelabs.com
Project Manager

Enclosures

cc: Ken Brown, AECOM, Inc. - MILWAUKEE
Sarah Engelhardt, AECOM, Inc. - MILWAUKEE



REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Wisconsin Certification #: 405132750

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40114981001	CS3-TX-1 10-14	Solid	05/14/15 12:45	05/19/15 09:30
40114981002	CS3-TX-1 17-21	Solid	05/14/15 12:50	05/19/15 09:30
40114981003	CS3-TX-3 10-14	Solid	05/14/15 14:00	05/19/15 09:30
40114981004	CS3-TX-3 17-21	Solid	05/14/15 14:05	05/19/15 09:30
40114981005	CS3-TX-2 10-14	Solid	05/15/15 10:15	05/19/15 09:30
40114981006	CS3-TX-2 18-22	Solid	05/15/15 10:30	05/19/15 09:30
40114981007	CS3-TX-4 10-14	Solid	05/15/15 12:00	05/19/15 09:30
40114981008	CS3-TX-4 18-22	Solid	05/15/15 12:10	05/19/15 09:30
40114981009	CS3-TX-5 10-14	Solid	05/15/15 14:00	05/19/15 09:30
40114981010	CS3-TX-5 18-22	Solid	05/15/15 14:10	05/19/15 09:30
40114981011	TRIP BLANK	Solid	05/14/15 08:00	05/19/15 09:30

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SAMPLE ANALYTE COUNT

Project: 60328684-2 KEP TREATABILITY
Pace Project No.: 40114981

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40114981001	CS3-TX-1 10-14	EPA 8260	SMT	64	PASI-G
40114981002	CS3-TX-1 17-21	EPA 8260	SMT	64	PASI-G
40114981003	CS3-TX-3 10-14	EPA 8260	SMT	64	PASI-G
40114981004	CS3-TX-3 17-21	EPA 8260	SMT	64	PASI-G
40114981005	CS3-TX-2 10-14	EPA 8260	SMT	64	PASI-G
40114981006	CS3-TX-2 18-22	EPA 8260	SMT	64	PASI-G
40114981007	CS3-TX-4 10-14	EPA 8260	SMT	64	PASI-G
40114981008	CS3-TX-4 18-22	EPA 8260	SMT	64	PASI-G
40114981009	CS3-TX-5 10-14	EPA 8260	SMT	64	PASI-G
40114981010	CS3-TX-5 18-22	EPA 8260	SMT	64	PASI-G
40114981011	TRIP BLANK	EPA 8260	SMT	64	PASI-G

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-1 10-14 Lab ID: 40114981001 Collected: 05/14/15 12:45 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	71-43-2	W
Bromobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	108-86-1	W
Bromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	74-97-5	W
Bromodichloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-27-4	W
Bromoform	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-25-2	W
Bromomethane	<140	ug/kg	500	140	2	05/20/15 10:00	05/22/15 05:05	74-83-9	L2,W
n-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	104-51-8	W
sec-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	135-98-8	W
tert-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	98-06-6	W
Carbon tetrachloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	56-23-5	W
Chlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	108-90-7	W
Chloroethane	<134	ug/kg	500	134	2	05/20/15 10:00	05/22/15 05:05	75-00-3	L2,W
Chloroform	<92.9	ug/kg	500	92.9	2	05/20/15 10:00	05/22/15 05:05	67-66-3	W
Chloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	74-87-3	W
2-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	95-49-8	W
4-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	106-43-4	W
1,2-Dibromo-3-chloropropane	<182	ug/kg	500	182	2	05/20/15 10:00	05/22/15 05:05	96-12-8	W
Dibromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	124-48-1	W
1,2-Dibromoethane (EDB)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	106-93-4	W
Dibromomethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	74-95-3	W
1,2-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	95-50-1	W
1,3-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	541-73-1	W
1,4-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	106-46-7	W
Dichlorodifluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-71-8	W
1,1-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-34-3	W
1,2-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	107-06-2	W
1,1-Dichloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-35-4	W
cis-1,2-Dichloroethene	706	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	156-59-2	
trans-1,2-Dichloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	156-60-5	W
1,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	78-87-5	W
1,3-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	142-28-9	W
2,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	594-20-7	W
1,1-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	563-58-6	W
cis-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	10061-01-5	W
trans-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	10061-02-6	W
Diisopropyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	108-20-3	W
Ethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	100-41-4	W
Hexachloro-1,3-butadiene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	87-68-3	W
Isopropylbenzene (Cumene)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	98-82-8	W
p-Isopropyltoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	99-87-6	W
Methylene Chloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-09-2	W
Methyl-tert-butyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	1634-04-4	W
Naphthalene	<80.1	ug/kg	500	80.1	2	05/20/15 10:00	05/22/15 05:05	91-20-3	W
n-Propylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	103-65-1	W
Styrene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-1 10-14 **Lab ID: 40114981001** Collected: 05/14/15 12:45 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	630-20-6	W
1,1,2,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	79-34-5	W
Tetrachloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	127-18-4	W
Toluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	108-88-3	W
1,2,3-Trichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	87-61-6	W
1,2,4-Trichlorobenzene	<95.1	ug/kg	500	95.1	2	05/20/15 10:00	05/22/15 05:05	120-82-1	W
1,1,1-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	71-55-6	W
1,1,2-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	79-00-5	W
Trichloroethene	4130	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	79-01-6	
Trichlorofluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-69-4	W
1,2,3-Trichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	96-18-4	W
1,2,4-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	95-63-6	W
1,3,5-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	108-67-8	W
Vinyl chloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	75-01-4	W
m&p-Xylene	<100	ug/kg	240	100	2	05/20/15 10:00	05/22/15 05:05	179601-23-1	W
o-Xylene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 05:05	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	92	%	49-157		2	05/20/15 10:00	05/22/15 05:05	1868-53-7	
Toluene-d8 (S)	100	%	61-148		2	05/20/15 10:00	05/22/15 05:05	2037-26-5	
4-Bromofluorobenzene (S)	91	%	53-134		2	05/20/15 10:00	05/22/15 05:05	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-1 17-21 Lab ID: 40114981002 Collected: 05/14/15 12:50 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	71-43-2	W
Bromobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	108-86-1	W
Bromochloromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	74-97-5	W
Bromodichloromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-27-4	W
Bromoform	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-25-2	W
Bromomethane	<699	ug/kg	2500	699	10	05/20/15 10:00	05/22/15 05:27	74-83-9	L2,W
n-Butylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	104-51-8	W
sec-Butylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	135-98-8	W
tert-Butylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	98-06-6	W
Carbon tetrachloride	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	56-23-5	W
Chlorobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	108-90-7	W
Chloroethane	<670	ug/kg	2500	670	10	05/20/15 10:00	05/22/15 05:27	75-00-3	L2,W
Chloroform	<464	ug/kg	2500	464	10	05/20/15 10:00	05/22/15 05:27	67-66-3	W
Chloromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	74-87-3	W
2-Chlorotoluene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	95-49-8	W
4-Chlorotoluene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	106-43-4	W
1,2-Dibromo-3-chloropropane	<912	ug/kg	2500	912	10	05/20/15 10:00	05/22/15 05:27	96-12-8	W
Dibromochloromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	124-48-1	W
1,2-Dibromoethane (EDB)	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	106-93-4	W
Dibromomethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	74-95-3	W
1,2-Dichlorobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	95-50-1	W
1,3-Dichlorobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	541-73-1	W
1,4-Dichlorobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	106-46-7	W
Dichlorodifluoromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-71-8	W
1,1-Dichloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-34-3	W
1,2-Dichloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	107-06-2	W
1,1-Dichloroethene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-35-4	W
cis-1,2-Dichloroethene	920	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	156-59-2	
trans-1,2-Dichloroethene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	156-60-5	W
1,2-Dichloropropane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	78-87-5	W
1,3-Dichloropropane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	142-28-9	W
2,2-Dichloropropane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	594-20-7	W
1,1-Dichloropropene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	563-58-6	W
cis-1,3-Dichloropropene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	10061-01-5	W
trans-1,3-Dichloropropene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	10061-02-6	W
Diisopropyl ether	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	108-20-3	W
Ethylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	100-41-4	W
Hexachloro-1,3-butadiene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	87-68-3	W
Isopropylbenzene (Cumene)	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	98-82-8	W
p-Isopropyltoluene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	99-87-6	W
Methylene Chloride	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-09-2	W
Methyl-tert-butyl ether	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	1634-04-4	W
Naphthalene	<400	ug/kg	2500	400	10	05/20/15 10:00	05/22/15 05:27	91-20-3	W
n-Propylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	103-65-1	W
Styrene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-1 17-21 **Lab ID:** 40114981002 Collected: 05/14/15 12:50 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	630-20-6	W
1,1,2,2-Tetrachloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	79-34-5	W
Tetrachloroethene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	127-18-4	W
Toluene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	108-88-3	W
1,2,3-Trichlorobenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	87-61-6	W
1,2,4-Trichlorobenzene	<476	ug/kg	2500	476	10	05/20/15 10:00	05/22/15 05:27	120-82-1	W
1,1,1-Trichloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	71-55-6	W
1,1,2-Trichloroethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	79-00-5	W
Trichloroethene	41700	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	79-01-6	
Trichlorofluoromethane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-69-4	W
1,2,3-Trichloropropane	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	96-18-4	W
1,2,4-Trimethylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	95-63-6	W
1,3,5-Trimethylbenzene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	108-67-8	W
Vinyl chloride	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	75-01-4	W
m&p-Xylene	<500	ug/kg	1200	500	10	05/20/15 10:00	05/22/15 05:27	179601-23-1	W
o-Xylene	<250	ug/kg	600	250	10	05/20/15 10:00	05/22/15 05:27	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	89	%	49-157		10	05/20/15 10:00	05/22/15 05:27	1868-53-7	
Toluene-d8 (S)	97	%	61-148		10	05/20/15 10:00	05/22/15 05:27	2037-26-5	
4-Bromofluorobenzene (S)	97	%	53-134		10	05/20/15 10:00	05/22/15 05:27	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-3 10-14 Lab ID: 40114981003 Collected: 05/14/15 14:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	71-43-2	W
Bromobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	108-86-1	W
Bromochloromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	74-97-5	W
Bromodichloromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-27-4	W
Bromoform	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-25-2	W
Bromomethane	<280	ug/kg	1000	280	4	05/20/15 10:00	05/22/15 05:50	74-83-9	L2,W
n-Butylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	104-51-8	W
sec-Butylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	135-98-8	W
tert-Butylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	98-06-6	W
Carbon tetrachloride	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	56-23-5	W
Chlorobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	108-90-7	W
Chloroethane	<268	ug/kg	1000	268	4	05/20/15 10:00	05/22/15 05:50	75-00-3	L2,W
Chloroform	<186	ug/kg	1000	186	4	05/20/15 10:00	05/22/15 05:50	67-66-3	W
Chloromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	74-87-3	W
2-Chlorotoluene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	95-49-8	W
4-Chlorotoluene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	106-43-4	W
1,2-Dibromo-3-chloropropane	<365	ug/kg	1000	365	4	05/20/15 10:00	05/22/15 05:50	96-12-8	W
Dibromochloromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	124-48-1	W
1,2-Dibromoethane (EDB)	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	106-93-4	W
Dibromomethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	74-95-3	W
1,2-Dichlorobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	95-50-1	W
1,3-Dichlorobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	541-73-1	W
1,4-Dichlorobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	106-46-7	W
Dichlorodifluoromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-71-8	W
1,1-Dichloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-34-3	W
1,2-Dichloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	107-06-2	W
1,1-Dichloroethene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-35-4	W
cis-1,2-Dichloroethene	8040	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	156-59-2	
trans-1,2-Dichloroethene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	156-60-5	W
1,2-Dichloropropane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	78-87-5	W
1,3-Dichloropropane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	142-28-9	W
2,2-Dichloropropane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	594-20-7	W
1,1-Dichloropropene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	563-58-6	W
cis-1,3-Dichloropropene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	10061-01-5	W
trans-1,3-Dichloropropene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	10061-02-6	W
Diisopropyl ether	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	108-20-3	W
Ethylbenzene	188J	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	100-41-4	
Hexachloro-1,3-butadiene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	87-68-3	W
Isopropylbenzene (Cumene)	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	98-82-8	W
p-Isopropyltoluene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	99-87-6	W
Methylene Chloride	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-09-2	W
Methyl-tert-butyl ether	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	1634-04-4	W
Naphthalene	<160	ug/kg	1000	160	4	05/20/15 10:00	05/22/15 05:50	91-20-3	W
n-Propylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	103-65-1	W
Styrene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-3 10-14 **Lab ID: 40114981003** Collected: 05/14/15 14:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	630-20-6	W
1,1,2,2-Tetrachloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	79-34-5	W
Tetrachloroethene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	127-18-4	W
Toluene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	108-88-3	W
1,2,3-Trichlorobenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	87-61-6	W
1,2,4-Trichlorobenzene	<190	ug/kg	1000	190	4	05/20/15 10:00	05/22/15 05:50	120-82-1	W
1,1,1-Trichloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	71-55-6	W
1,1,2-Trichloroethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	79-00-5	W
Trichloroethene	10700	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	79-01-6	
Trichlorofluoromethane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-69-4	W
1,2,3-Trichloropropane	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	96-18-4	W
1,2,4-Trimethylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	95-63-6	W
1,3,5-Trimethylbenzene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	108-67-8	W
Vinyl chloride	1270	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	75-01-4	
m&p-Xylene	<200	ug/kg	480	200	4	05/20/15 10:00	05/22/15 05:50	179601-23-1	W
o-Xylene	<100	ug/kg	240	100	4	05/20/15 10:00	05/22/15 05:50	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	79	%	49-157		4	05/20/15 10:00	05/22/15 05:50	1868-53-7	
Toluene-d8 (S)	86	%	61-148		4	05/20/15 10:00	05/22/15 05:50	2037-26-5	
4-Bromofluorobenzene (S)	89	%	53-134		4	05/20/15 10:00	05/22/15 05:50	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-3 17-21 Lab ID: 40114981004 Collected: 05/14/15 14:05 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	71-43-2	W
Bromobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	108-86-1	W
Bromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	74-97-5	W
Bromodichloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-27-4	W
Bromoform	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-25-2	W
Bromomethane	<140	ug/kg	500	140	2	05/20/15 10:00	05/22/15 06:12	74-83-9	L2,W
n-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	104-51-8	W
sec-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	135-98-8	W
tert-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	98-06-6	W
Carbon tetrachloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	56-23-5	W
Chlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	108-90-7	W
Chloroethane	<134	ug/kg	500	134	2	05/20/15 10:00	05/22/15 06:12	75-00-3	L2,W
Chloroform	<92.9	ug/kg	500	92.9	2	05/20/15 10:00	05/22/15 06:12	67-66-3	W
Chloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	74-87-3	W
2-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	95-49-8	W
4-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	106-43-4	W
1,2-Dibromo-3-chloropropane	<182	ug/kg	500	182	2	05/20/15 10:00	05/22/15 06:12	96-12-8	W
Dibromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	124-48-1	W
1,2-Dibromoethane (EDB)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	106-93-4	W
Dibromomethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	74-95-3	W
1,2-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	95-50-1	W
1,3-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	541-73-1	W
1,4-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	106-46-7	W
Dichlorodifluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-71-8	W
1,1-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-34-3	W
1,2-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	107-06-2	W
1,1-Dichloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-35-4	W
cis-1,2-Dichloroethene	10600	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	156-59-2	
trans-1,2-Dichloroethene	233	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	156-60-5	
1,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	78-87-5	W
1,3-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	142-28-9	W
2,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	594-20-7	W
1,1-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	563-58-6	W
cis-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	10061-01-5	W
trans-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	10061-02-6	W
Diisopropyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	108-20-3	W
Ethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	100-41-4	W
Hexachloro-1,3-butadiene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	87-68-3	W
Isopropylbenzene (Cumene)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	98-82-8	W
p-Isopropyltoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	99-87-6	W
Methylene Chloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-09-2	W
Methyl-tert-butyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	1634-04-4	W
Naphthalene	<80.1	ug/kg	500	80.1	2	05/20/15 10:00	05/22/15 06:12	91-20-3	W
n-Propylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	103-65-1	W
Styrene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-3 17-21 **Lab ID: 40114981004** Collected: 05/14/15 14:05 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
1,1,1,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	630-20-6	W
1,1,2,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	79-34-5	W
Tetrachloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	127-18-4	W
Toluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	108-88-3	W
1,2,3-Trichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	87-61-6	W
1,2,4-Trichlorobenzene	<95.1	ug/kg	500	95.1	2	05/20/15 10:00	05/22/15 06:12	120-82-1	W
1,1,1-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	71-55-6	W
1,1,2-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	79-00-5	W
Trichloroethene	5020	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	79-01-6	
Trichlorofluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-69-4	W
1,2,3-Trichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	96-18-4	W
1,2,4-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	95-63-6	W
1,3,5-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	108-67-8	W
Vinyl chloride	1140	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	75-01-4	
m&p-Xylene	<100	ug/kg	240	100	2	05/20/15 10:00	05/22/15 06:12	179601-23-1	W
o-Xylene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:12	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	95	%	49-157		2	05/20/15 10:00	05/22/15 06:12	1868-53-7	
Toluene-d8 (S)	105	%	61-148		2	05/20/15 10:00	05/22/15 06:12	2037-26-5	
4-Bromofluorobenzene (S)	92	%	53-134		2	05/20/15 10:00	05/22/15 06:12	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-2 10-14 Lab ID: 40114981005 Collected: 05/15/15 10:15 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	71-43-2	W
Bromobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	108-86-1	W
Bromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	74-97-5	W
Bromodichloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-27-4	W
Bromoform	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-25-2	W
Bromomethane	<140	ug/kg	500	140	2	05/20/15 10:00	05/22/15 06:35	74-83-9	L2,W
n-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	104-51-8	W
sec-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	135-98-8	W
tert-Butylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	98-06-6	W
Carbon tetrachloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	56-23-5	W
Chlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	108-90-7	W
Chloroethane	<134	ug/kg	500	134	2	05/20/15 10:00	05/22/15 06:35	75-00-3	L2,W
Chloroform	<92.9	ug/kg	500	92.9	2	05/20/15 10:00	05/22/15 06:35	67-66-3	W
Chloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	74-87-3	W
2-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	95-49-8	W
4-Chlorotoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	106-43-4	W
1,2-Dibromo-3-chloropropane	<182	ug/kg	500	182	2	05/20/15 10:00	05/22/15 06:35	96-12-8	W
Dibromochloromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	124-48-1	W
1,2-Dibromoethane (EDB)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	106-93-4	W
Dibromomethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	74-95-3	W
1,2-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	95-50-1	W
1,3-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	541-73-1	W
1,4-Dichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	106-46-7	W
Dichlorodifluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-71-8	W
1,1-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-34-3	W
1,2-Dichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	107-06-2	W
1,1-Dichloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-35-4	W
cis-1,2-Dichloroethene	1820	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	156-59-2	
trans-1,2-Dichloroethene	300	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	156-60-5	
1,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	78-87-5	W
1,3-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	142-28-9	W
2,2-Dichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	594-20-7	W
1,1-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	563-58-6	W
cis-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	10061-01-5	W
trans-1,3-Dichloropropene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	10061-02-6	W
Diisopropyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	108-20-3	W
Ethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	100-41-4	W
Hexachloro-1,3-butadiene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	87-68-3	W
Isopropylbenzene (Cumene)	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	98-82-8	W
p-Isopropyltoluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	99-87-6	W
Methylene Chloride	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-09-2	W
Methyl-tert-butyl ether	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	1634-04-4	W
Naphthalene	<80.1	ug/kg	500	80.1	2	05/20/15 10:00	05/22/15 06:35	91-20-3	W
n-Propylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	103-65-1	W
Styrene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-2 10-14 **Lab ID: 40114981005** Collected: 05/15/15 10:15 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	630-20-6	W
1,1,2,2-Tetrachloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	79-34-5	W
Tetrachloroethene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	127-18-4	W
Toluene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	108-88-3	W
1,2,3-Trichlorobenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	87-61-6	W
1,2,4-Trichlorobenzene	<95.1	ug/kg	500	95.1	2	05/20/15 10:00	05/22/15 06:35	120-82-1	W
1,1,1-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	71-55-6	W
1,1,2-Trichloroethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	79-00-5	W
Trichloroethene	6490	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	79-01-6	
Trichlorofluoromethane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-69-4	W
1,2,3-Trichloropropane	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	96-18-4	W
1,2,4-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	95-63-6	W
1,3,5-Trimethylbenzene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	108-67-8	W
Vinyl chloride	101J	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	75-01-4	
m&p-Xylene	<100	ug/kg	240	100	2	05/20/15 10:00	05/22/15 06:35	179601-23-1	W
o-Xylene	<50.0	ug/kg	120	50.0	2	05/20/15 10:00	05/22/15 06:35	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	90	%	49-157		2	05/20/15 10:00	05/22/15 06:35	1868-53-7	
Toluene-d8 (S)	99	%	61-148		2	05/20/15 10:00	05/22/15 06:35	2037-26-5	
4-Bromofluorobenzene (S)	96	%	53-134		2	05/20/15 10:00	05/22/15 06:35	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-2 18-22 Lab ID: 40114981006 Collected: 05/15/15 10:30 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	71-43-2	W
Bromobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	108-86-1	W
Bromochloromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	74-97-5	W
Bromodichloromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-27-4	W
Bromoform	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-25-2	W
Bromomethane	<874	ug/kg	3120	874	12.5	05/20/15 10:00	05/22/15 06:58	74-83-9	L2,W
n-Butylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	104-51-8	W
sec-Butylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	135-98-8	W
tert-Butylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	98-06-6	W
Carbon tetrachloride	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	56-23-5	W
Chlorobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	108-90-7	W
Chloroethane	<838	ug/kg	3120	838	12.5	05/20/15 10:00	05/22/15 06:58	75-00-3	L2,W
Chloroform	<581	ug/kg	3120	581	12.5	05/20/15 10:00	05/22/15 06:58	67-66-3	W
Chloromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	74-87-3	W
2-Chlorotoluene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	95-49-8	W
4-Chlorotoluene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	106-43-4	W
1,2-Dibromo-3-chloropropane	<1140	ug/kg	3120	1140	12.5	05/20/15 10:00	05/22/15 06:58	96-12-8	W
Dibromochloromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	124-48-1	W
1,2-Dibromoethane (EDB)	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	106-93-4	W
Dibromomethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	74-95-3	W
1,2-Dichlorobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	95-50-1	W
1,3-Dichlorobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	541-73-1	W
1,4-Dichlorobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	106-46-7	W
Dichlorodifluoromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-71-8	W
1,1-Dichloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-34-3	W
1,2-Dichloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	107-06-2	W
1,1-Dichloroethene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-35-4	W
cis-1,2-Dichloroethene	3290	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	156-59-2	
trans-1,2-Dichloroethene	314J	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	156-60-5	
1,2-Dichloropropane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	78-87-5	W
1,3-Dichloropropane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	142-28-9	W
2,2-Dichloropropane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	594-20-7	W
1,1-Dichloropropene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	563-58-6	W
cis-1,3-Dichloropropene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	10061-01-5	W
trans-1,3-Dichloropropene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	10061-02-6	W
Diisopropyl ether	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	108-20-3	W
Ethylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	100-41-4	W
Hexachloro-1,3-butadiene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	87-68-3	W
Isopropylbenzene (Cumene)	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	98-82-8	W
p-Isopropyltoluene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	99-87-6	W
Methylene Chloride	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-09-2	W
Methyl-tert-butyl ether	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	1634-04-4	W
Naphthalene	<501	ug/kg	3120	501	12.5	05/20/15 10:00	05/22/15 06:58	91-20-3	W
n-Propylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	103-65-1	W
Styrene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-2 18-22 **Lab ID: 40114981006** Collected: 05/15/15 10:30 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	630-20-6	W
1,1,1,2-Tetrachloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	79-34-5	W
Tetrachloroethene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	127-18-4	W
Toluene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	108-88-3	W
1,2,3-Trichlorobenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	87-61-6	W
1,2,4-Trichlorobenzene	<594	ug/kg	3120	594	12.5	05/20/15 10:00	05/22/15 06:58	120-82-1	W
1,1,1-Trichloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	71-55-6	W
1,1,2-Trichloroethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	79-00-5	W
Trichloroethene	51600	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	79-01-6	
Trichlorofluoromethane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-69-4	W
1,2,3-Trichloropropane	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	96-18-4	W
1,2,4-Trimethylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	95-63-6	W
1,3,5-Trimethylbenzene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	108-67-8	W
Vinyl chloride	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	75-01-4	W
m&p-Xylene	<625	ug/kg	1500	625	12.5	05/20/15 10:00	05/22/15 06:58	179601-23-1	W
o-Xylene	<312	ug/kg	750	312	12.5	05/20/15 10:00	05/22/15 06:58	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	0	%	49-157		12.5	05/20/15 10:00	05/22/15 06:58	1868-53-7	S4
Toluene-d8 (S)	0	%	61-148		12.5	05/20/15 10:00	05/22/15 06:58	2037-26-5	S4
4-Bromofluorobenzene (S)	0	%	53-134		12.5	05/20/15 10:00	05/22/15 06:58	460-00-4	S4

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Lab Project No.: 40114981

Sample: CS3-TX-4 10-14 Lab ID: 40114981007 Collected: 05/15/15 12:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	05/20/15 10:00	05/22/15 03:35	74-83-9	L2,W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	05/20/15 10:00	05/22/15 03:35	75-00-3	L2,W
Chloroform	<46.4	ug/kg	250	46.4	1	05/20/15 10:00	05/22/15 03:35	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	05/20/15 10:00	05/22/15 03:35	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	107-06-2	W
1,1-Dichloroethene	41.2J	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-35-4	
cis-1,2-Dichloroethene	7060	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	156-59-2	
trans-1,2-Dichloroethene	30.0J	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	156-60-5	
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	05/20/15 10:00	05/22/15 03:35	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-4 10-14 **Lab ID: 40114981007** Collected: 05/15/15 12:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	79-34-5	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	127-18-4	W
Toluene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	05/20/15 10:00	05/22/15 03:35	120-82-1	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	108-67-8	W
Vinyl chloride	447	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	75-01-4	
m&p-Xylene	<50.0	ug/kg	120	50.0	1	05/20/15 10:00	05/22/15 03:35	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	05/20/15 10:00	05/22/15 03:35	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	97	%	49-157		1	05/20/15 10:00	05/22/15 03:35	1868-53-7	
Toluene-d8 (S)	103	%	61-148		1	05/20/15 10:00	05/22/15 03:35	2037-26-5	
4-Bromofluorobenzene (S)	97	%	53-134		1	05/20/15 10:00	05/22/15 03:35	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-4 18-22 Lab ID: 40114981008 Collected: 05/15/15 12:10 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	71-43-2	W
Bromobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	108-86-1	W
Bromochloromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	74-97-5	W
Bromodichloromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-27-4	W
Bromoform	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-25-2	W
Bromomethane	<280	ug/kg	1000	280	4	05/21/15 08:00	05/22/15 11:42	74-83-9	W
n-Butylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	104-51-8	W
sec-Butylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	135-98-8	W
tert-Butylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	98-06-6	W
Carbon tetrachloride	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	56-23-5	W
Chlorobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	108-90-7	W
Chloroethane	<268	ug/kg	1000	268	4	05/21/15 08:00	05/22/15 11:42	75-00-3	W
Chloroform	<186	ug/kg	1000	186	4	05/21/15 08:00	05/22/15 11:42	67-66-3	W
Chloromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	74-87-3	W
2-Chlorotoluene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	95-49-8	W
4-Chlorotoluene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	106-43-4	W
1,2-Dibromo-3-chloropropane	<365	ug/kg	1000	365	4	05/21/15 08:00	05/22/15 11:42	96-12-8	W
Dibromochloromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	124-48-1	W
1,2-Dibromoethane (EDB)	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	106-93-4	W
Dibromomethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	74-95-3	W
1,2-Dichlorobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	95-50-1	W
1,3-Dichlorobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	541-73-1	W
1,4-Dichlorobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	106-46-7	W
Dichlorodifluoromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-71-8	W
1,1-Dichloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-34-3	W
1,2-Dichloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	107-06-2	W
1,1-Dichloroethene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-35-4	W
cis-1,2-Dichloroethene	17700	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	156-59-2	
trans-1,2-Dichloroethene	354	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	156-60-5	
1,2-Dichloropropane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	78-87-5	W
1,3-Dichloropropane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	142-28-9	W
2,2-Dichloropropane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	594-20-7	W
1,1-Dichloropropene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	563-58-6	W
cis-1,3-Dichloropropene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	10061-01-5	W
trans-1,3-Dichloropropene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	10061-02-6	W
Diisopropyl ether	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	108-20-3	W
Ethylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	100-41-4	W
Hexachloro-1,3-butadiene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	87-68-3	W
Isopropylbenzene (Cumene)	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	98-82-8	W
p-Isopropyltoluene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	99-87-6	W
Methylene Chloride	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-09-2	W
Methyl-tert-butyl ether	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	1634-04-4	W
Naphthalene	<160	ug/kg	1000	160	4	05/21/15 08:00	05/22/15 11:42	91-20-3	W
n-Propylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	103-65-1	W
Styrene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-4 18-22 **Lab ID: 40114981008** Collected: 05/15/15 12:10 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	630-20-6	W
1,1,2,2-Tetrachloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	79-34-5	W
Tetrachloroethene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	127-18-4	W
Toluene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	108-88-3	W
1,2,3-Trichlorobenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	87-61-6	W
1,2,4-Trichlorobenzene	<190	ug/kg	1000	190	4	05/21/15 08:00	05/22/15 11:42	120-82-1	W
1,1,1-Trichloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	71-55-6	W
1,1,2-Trichloroethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	79-00-5	W
Trichloroethene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	79-01-6	W
Trichlorofluoromethane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-69-4	W
1,2,3-Trichloropropane	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	96-18-4	W
1,2,4-Trimethylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	95-63-6	W
1,3,5-Trimethylbenzene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	108-67-8	W
Vinyl chloride	1210	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	75-01-4	
m&p-Xylene	<200	ug/kg	480	200	4	05/21/15 08:00	05/22/15 11:42	179601-23-1	W
o-Xylene	<100	ug/kg	240	100	4	05/21/15 08:00	05/22/15 11:42	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	89	%	49-157		4	05/21/15 08:00	05/22/15 11:42	1868-53-7	
Toluene-d8 (S)	83	%	61-148		4	05/21/15 08:00	05/22/15 11:42	2037-26-5	
4-Bromofluorobenzene (S)	77	%	53-134		4	05/21/15 08:00	05/22/15 11:42	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-5 10-14 Lab ID: 40114981009 Collected: 05/15/15 14:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List									
Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B									
Benzene	172	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	71-43-2	
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	05/21/15 08:00	05/21/15 23:42	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	05/21/15 08:00	05/21/15 23:42	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	05/21/15 08:00	05/21/15 23:42	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	05/21/15 08:00	05/21/15 23:42	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-35-4	W
cis-1,2-Dichloroethene	4020	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	156-59-2	
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	05/21/15 08:00	05/21/15 23:42	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	100-42-5	W

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-5 10-14 **Lab ID: 40114981009** Collected: 05/15/15 14:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	79-34-5	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	127-18-4	W
Toluene	43.8J	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	108-88-3	
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	05/21/15 08:00	05/21/15 23:42	120-82-1	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	79-00-5	W
Trichloroethene	45.9J	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	79-01-6	
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	108-67-8	W
Vinyl chloride	486	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	75-01-4	
m&p-Xylene	335	ug/kg	120	50.0	1	05/21/15 08:00	05/21/15 23:42	179601-23-1	
o-Xylene	73.2	ug/kg	60.0	25.0	1	05/21/15 08:00	05/21/15 23:42	95-47-6	
Surrogates									
Dibromofluoromethane (S)	95	%	49-157		1	05/21/15 08:00	05/21/15 23:42	1868-53-7	
Toluene-d8 (S)	97	%	61-148		1	05/21/15 08:00	05/21/15 23:42	2037-26-5	
4-Bromofluorobenzene (S)	83	%	53-134		1	05/21/15 08:00	05/21/15 23:42	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-5 18-22 Lab ID: 40114981010 Collected: 05/15/15 14:10 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	71-43-2	W
Bromobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	108-86-1	W
Bromochloromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	74-97-5	W
Bromodichloromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-27-4	W
Bromoform	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-25-2	W
Bromomethane	<559	ug/kg	2000	559	8	05/21/15 08:00	05/22/15 05:05	74-83-9	W
n-Butylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	104-51-8	W
sec-Butylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	135-98-8	W
tert-Butylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	98-06-6	W
Carbon tetrachloride	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	56-23-5	W
Chlorobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	108-90-7	W
Chloroethane	<536	ug/kg	2000	536	8	05/21/15 08:00	05/22/15 05:05	75-00-3	W
Chloroform	<372	ug/kg	2000	372	8	05/21/15 08:00	05/22/15 05:05	67-66-3	W
Chloromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	74-87-3	W
2-Chlorotoluene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	95-49-8	W
4-Chlorotoluene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	106-43-4	W
1,2-Dibromo-3-chloropropane	<730	ug/kg	2000	730	8	05/21/15 08:00	05/22/15 05:05	96-12-8	W
Dibromochloromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	124-48-1	W
1,2-Dibromoethane (EDB)	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	106-93-4	W
Dibromomethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	74-95-3	W
1,2-Dichlorobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	95-50-1	W
1,3-Dichlorobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	541-73-1	W
1,4-Dichlorobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	106-46-7	W
Dichlorodifluoromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-71-8	W
1,1-Dichloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-34-3	W
1,2-Dichloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	107-06-2	W
1,1-Dichloroethene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-35-4	W
cis-1,2-Dichloroethene	7990	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	156-59-2	
trans-1,2-Dichloroethene	257J	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	156-60-5	
1,2-Dichloropropane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	78-87-5	W
1,3-Dichloropropane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	142-28-9	W
2,2-Dichloropropane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	594-20-7	W
1,1-Dichloropropene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	563-58-6	W
cis-1,3-Dichloropropene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	10061-01-5	W
trans-1,3-Dichloropropene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	10061-02-6	W
Diisopropyl ether	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	108-20-3	W
Ethylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	100-41-4	W
Hexachloro-1,3-butadiene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	87-68-3	W
Isopropylbenzene (Cumene)	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	98-82-8	W
p-Isopropyltoluene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	99-87-6	W
Methylene Chloride	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-09-2	W
Methyl-tert-butyl ether	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	1634-04-4	W
Naphthalene	<320	ug/kg	2000	320	8	05/21/15 08:00	05/22/15 05:05	91-20-3	W
n-Propylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	103-65-1	W
Styrene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: CS3-TX-5 18-22 **Lab ID: 40114981010** Collected: 05/15/15 14:10 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	630-20-6	W
1,1,2,2-Tetrachloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	79-34-5	W
Tetrachloroethene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	127-18-4	W
Toluene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	108-88-3	W
1,2,3-Trichlorobenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	87-61-6	W
1,2,4-Trichlorobenzene	<380	ug/kg	2000	380	8	05/21/15 08:00	05/22/15 05:05	120-82-1	W
1,1,1-Trichloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	71-55-6	W
1,1,2-Trichloroethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	79-00-5	W
Trichloroethene	24800	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	79-01-6	
Trichlorofluoromethane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-69-4	W
1,2,3-Trichloropropane	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	96-18-4	W
1,2,4-Trimethylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	95-63-6	W
1,3,5-Trimethylbenzene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	108-67-8	W
Vinyl chloride	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	75-01-4	W
m&p-Xylene	<400	ug/kg	960	400	8	05/21/15 08:00	05/22/15 05:05	179601-23-1	W
o-Xylene	<200	ug/kg	480	200	8	05/21/15 08:00	05/22/15 05:05	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	97	%	49-157		8	05/21/15 08:00	05/22/15 05:05	1868-53-7	
Toluene-d8 (S)	92	%	61-148		8	05/21/15 08:00	05/22/15 05:05	2037-26-5	
4-Bromofluorobenzene (S)	86	%	53-134		8	05/21/15 08:00	05/22/15 05:05	460-00-4	

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: **TRIP BLANK** Lab ID: **40114981011** Collected: 05/14/15 08:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
Benzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	71-43-2	W
Bromobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	108-86-1	W
Bromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	74-97-5	W
Bromodichloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-27-4	W
Bromoform	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-25-2	W
Bromomethane	<69.9	ug/kg	250	69.9	1	05/21/15 08:00	05/22/15 00:05	74-83-9	W
n-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	104-51-8	W
sec-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	135-98-8	W
tert-Butylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	98-06-6	W
Carbon tetrachloride	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	56-23-5	W
Chlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	108-90-7	W
Chloroethane	<67.0	ug/kg	250	67.0	1	05/21/15 08:00	05/22/15 00:05	75-00-3	W
Chloroform	<46.4	ug/kg	250	46.4	1	05/21/15 08:00	05/22/15 00:05	67-66-3	W
Chloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	74-87-3	W
2-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	95-49-8	W
4-Chlorotoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	106-43-4	W
1,2-Dibromo-3-chloropropane	<91.2	ug/kg	250	91.2	1	05/21/15 08:00	05/22/15 00:05	96-12-8	W
Dibromochloromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	124-48-1	W
1,2-Dibromoethane (EDB)	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	106-93-4	W
Dibromomethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	74-95-3	W
1,2-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	95-50-1	W
1,3-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	541-73-1	W
1,4-Dichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	106-46-7	W
Dichlorodifluoromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-71-8	W
1,1-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-34-3	W
1,2-Dichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	107-06-2	W
1,1-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-35-4	W
cis-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	156-59-2	W
trans-1,2-Dichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	156-60-5	W
1,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	78-87-5	W
1,3-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	142-28-9	W
2,2-Dichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	594-20-7	W
1,1-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	563-58-6	W
cis-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	10061-01-5	W
trans-1,3-Dichloropropene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	10061-02-6	W
Diisopropyl ether	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	108-20-3	W
Ethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	100-41-4	W
Hexachloro-1,3-butadiene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	87-68-3	W
Isopropylbenzene (Cumene)	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	98-82-8	W
p-Isopropyltoluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	99-87-6	W
Methylene Chloride	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-09-2	W
Methyl-tert-butyl ether	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	1634-04-4	W
Naphthalene	<40.0	ug/kg	250	40.0	1	05/21/15 08:00	05/22/15 00:05	91-20-3	W
n-Propylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	103-65-1	W
Styrene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	100-42-5	W

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ANALYTICAL RESULTS

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Sample: TRIP BLANK **Lab ID: 40114981011** Collected: 05/14/15 08:00 Received: 05/19/15 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Level Normal List		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B							
1,1,1,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	630-20-6	W
1,1,2,2-Tetrachloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	79-34-5	W
Tetrachloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	127-18-4	W
Toluene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	108-88-3	W
1,2,3-Trichlorobenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	87-61-6	W
1,2,4-Trichlorobenzene	<47.6	ug/kg	250	47.6	1	05/21/15 08:00	05/22/15 00:05	120-82-1	W
1,1,1-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	71-55-6	W
1,1,2-Trichloroethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	79-00-5	W
Trichloroethene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	79-01-6	W
Trichlorofluoromethane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-69-4	W
1,2,3-Trichloropropane	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	96-18-4	W
1,2,4-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	95-63-6	W
1,3,5-Trimethylbenzene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	108-67-8	W
Vinyl chloride	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	75-01-4	W
m&p-Xylene	<50.0	ug/kg	120	50.0	1	05/21/15 08:00	05/22/15 00:05	179601-23-1	W
o-Xylene	<25.0	ug/kg	60.0	25.0	1	05/21/15 08:00	05/22/15 00:05	95-47-6	W
Surrogates									
Dibromofluoromethane (S)	100	%	49-157		1	05/21/15 08:00	05/22/15 00:05	1868-53-7	
Toluene-d8 (S)	99	%	61-148		1	05/21/15 08:00	05/22/15 00:05	2037-26-5	
4-Bromofluorobenzene (S)	89	%	53-134		1	05/21/15 08:00	05/22/15 00:05	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

QC Batch: MSV/28548 Analysis Method: EPA 8260
 QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
 Associated Lab Samples: 40114981001, 40114981002, 40114981003, 40114981004, 40114981005, 40114981006, 40114981007

METHOD BLANK: 1161217 Matrix: Solid
 Associated Lab Samples: 40114981001, 40114981002, 40114981003, 40114981004, 40114981005, 40114981006, 40114981007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	05/21/15 21:11	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	05/21/15 21:11	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	05/21/15 21:11	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	05/21/15 21:11	
1,1-Dichloroethane	ug/kg	<17.6	50.0	05/21/15 21:11	
1,1-Dichloroethene	ug/kg	<17.6	50.0	05/21/15 21:11	
1,1-Dichloropropene	ug/kg	<14.0	50.0	05/21/15 21:11	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	05/21/15 21:11	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	05/21/15 21:11	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	05/21/15 21:11	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	05/21/15 21:11	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	05/21/15 21:11	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	05/21/15 21:11	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	05/21/15 21:11	
1,2-Dichloroethane	ug/kg	<15.0	50.0	05/21/15 21:11	
1,2-Dichloropropane	ug/kg	<16.8	50.0	05/21/15 21:11	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	05/21/15 21:11	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	05/21/15 21:11	
1,3-Dichloropropane	ug/kg	<12.0	50.0	05/21/15 21:11	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	05/21/15 21:11	
2,2-Dichloropropane	ug/kg	<12.6	50.0	05/21/15 21:11	
2-Chlorotoluene	ug/kg	<15.8	50.0	05/21/15 21:11	
4-Chlorotoluene	ug/kg	<13.0	50.0	05/21/15 21:11	
Benzene	ug/kg	<9.2	20.0	05/21/15 21:11	
Bromobenzene	ug/kg	<20.6	50.0	05/21/15 21:11	
Bromochloromethane	ug/kg	<21.4	50.0	05/21/15 21:11	
Bromodichloromethane	ug/kg	<9.8	50.0	05/21/15 21:11	
Bromoform	ug/kg	<19.8	50.0	05/21/15 21:11	
Bromomethane	ug/kg	<69.9	250	05/21/15 21:11	
Carbon tetrachloride	ug/kg	<12.1	50.0	05/21/15 21:11	
Chlorobenzene	ug/kg	<14.8	50.0	05/21/15 21:11	
Chloroethane	ug/kg	<67.0	250	05/21/15 21:11	
Chloroform	ug/kg	<46.4	250	05/21/15 21:11	
Chloromethane	ug/kg	<20.4	50.0	05/21/15 21:11	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	05/21/15 21:11	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	05/21/15 21:11	
Dibromochloromethane	ug/kg	<17.9	50.0	05/21/15 21:11	
Dibromomethane	ug/kg	<19.3	50.0	05/21/15 21:11	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	05/21/15 21:11	
Diisopropyl ether	ug/kg	<17.7	50.0	05/21/15 21:11	
Ethylbenzene	ug/kg	<12.4	50.0	05/21/15 21:11	

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

METHOD BLANK: 1161217

Matrix: Solid

Associated Lab Samples: 40114981001, 40114981002, 40114981003, 40114981004, 40114981005, 40114981006, 40114981007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<24.5	50.0	05/21/15 21:11	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	05/21/15 21:11	
m&p-Xylene	ug/kg	<34.4	100	05/21/15 21:11	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	05/21/15 21:11	
Methylene Chloride	ug/kg	<16.2	50.0	05/21/15 21:11	
n-Butylbenzene	ug/kg	11.2J	50.0	05/21/15 21:11	
n-Propylbenzene	ug/kg	<11.6	50.0	05/21/15 21:11	
Naphthalene	ug/kg	<40.0	250	05/21/15 21:11	
o-Xylene	ug/kg	<14.0	50.0	05/21/15 21:11	
p-Isopropyltoluene	ug/kg	<12.0	50.0	05/21/15 21:11	
sec-Butylbenzene	ug/kg	<11.9	50.0	05/21/15 21:11	
Styrene	ug/kg	<9.0	50.0	05/21/15 21:11	
tert-Butylbenzene	ug/kg	<9.5	50.0	05/21/15 21:11	
Tetrachloroethene	ug/kg	<12.9	50.0	05/21/15 21:11	
Toluene	ug/kg	<11.2	50.0	05/21/15 21:11	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	05/21/15 21:11	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	05/21/15 21:11	
Trichloroethene	ug/kg	<23.6	50.0	05/21/15 21:11	
Trichlorofluoromethane	ug/kg	<24.7	50.0	05/21/15 21:11	
Vinyl chloride	ug/kg	<21.1	50.0	05/21/15 21:11	
4-Bromofluorobenzene (S)	%	97	53-134	05/21/15 21:11	
Dibromofluoromethane (S)	%	92	49-157	05/21/15 21:11	
Toluene-d8 (S)	%	106	61-148	05/21/15 21:11	

LABORATORY CONTROL SAMPLE & LCSD: 1161218

1161219

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2510	2480	100	99	70-130	1	20	
1,1,1,2-Tetrachloroethane	ug/kg	2500	2290	2610	92	105	70-130	13	20	
1,1,2-Trichloroethane	ug/kg	2500	2440	2530	97	101	70-130	4	20	
1,1-Dichloroethane	ug/kg	2500	2270	2300	91	92	70-130	1	20	
1,1-Dichloroethene	ug/kg	2500	1950	1930	78	77	70-132	1	20	
1,2,4-Trichlorobenzene	ug/kg	2500	2510	2790	100	112	70-130	11	20	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2230	2490	89	100	45-150	11	20	
1,2-Dibromoethane (EDB)	ug/kg	2500	2430	2580	97	103	70-130	6	20	
1,2-Dichlorobenzene	ug/kg	2500	2330	2480	93	99	70-130	6	20	
1,2-Dichloroethane	ug/kg	2500	2580	2520	103	101	70-134	2	20	
1,2-Dichloropropane	ug/kg	2500	2530	2500	101	100	70-130	1	20	
1,3-Dichlorobenzene	ug/kg	2500	2360	2490	94	100	70-130	6	20	
1,4-Dichlorobenzene	ug/kg	2500	2350	2470	94	99	70-130	5	20	
Benzene	ug/kg	2500	2250	2250	90	90	70-130	0	20	
Bromodichloromethane	ug/kg	2500	2620	2690	105	107	70-130	3	20	
Bromoform	ug/kg	2500	2090	2230	84	89	48-130	6	20	
Bromomethane	ug/kg	2500	1390	1420	55	57	70-169	2	20 L0	

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

LABORATORY CONTROL SAMPLE & LCSD: 1161218		1161219								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/kg	2500	2260	2330	90	93	67-130	3	20	
Chlorobenzene	ug/kg	2500	2490	2560	100	102	70-130	3	20	
Chloroethane	ug/kg	2500	1590	1600	64	64	70-191	1	20	L0
Chloroform	ug/kg	2500	2180	2260	87	90	70-130	4	20	
Chloromethane	ug/kg	2500	1810	1770	72	71	52-132	2	20	
cis-1,2-Dichloroethene	ug/kg	2500	2160	2180	86	87	70-130	1	20	
cis-1,3-Dichloropropene	ug/kg	2500	2350	2350	94	94	70-130	0	20	
Dibromochloromethane	ug/kg	2500	2300	2430	92	97	65-130	6	20	
Dichlorodifluoromethane	ug/kg	2500	1350	1290	54	52	12-150	5	20	
Ethylbenzene	ug/kg	2500	2520	2560	101	102	70-130	1	20	
Isopropylbenzene (Cumene)	ug/kg	2500	2510	2600	100	104	70-130	3	20	
m&p-Xylene	ug/kg	5000	4860	4970	97	99	70-130	2	20	
Methyl-tert-butyl ether	ug/kg	2500	2490	2560	100	103	70-130	3	20	
Methylene Chloride	ug/kg	2500	2130	2090	85	84	70-131	2	20	
o-Xylene	ug/kg	2500	2340	2380	94	95	70-130	1	20	
Styrene	ug/kg	2500	2400	2470	96	99	70-130	3	20	
Tetrachloroethene	ug/kg	2500	2710	2810	108	112	70-130	4	20	
Toluene	ug/kg	2500	2520	2580	101	103	70-130	2	20	
trans-1,2-Dichloroethene	ug/kg	2500	1950	1920	78	77	69-130	1	20	
trans-1,3-Dichloropropene	ug/kg	2500	2310	2460	93	98	65-130	6	20	
Trichloroethene	ug/kg	2500	2560	2510	103	100	70-130	2	20	
Trichlorofluoromethane	ug/kg	2500	1910	1810	76	72	50-150	6	20	
Vinyl chloride	ug/kg	2500	1930	1900	77	76	67-134	2	20	
4-Bromofluorobenzene (S)	%				97	101	53-134			
Dibromofluoromethane (S)	%				95	95	49-157			
Toluene-d8 (S)	%				105	107	61-148			

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

QC Batch: MSV/28568 Analysis Method: EPA 8260
 QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Level Normal List
 Associated Lab Samples: 40114981008, 40114981009, 40114981010, 40114981011

METHOD BLANK: 1161762 Matrix: Solid
 Associated Lab Samples: 40114981008, 40114981009, 40114981010, 40114981011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<13.7	50.0	05/21/15 11:28	
1,1,1-Trichloroethane	ug/kg	<14.4	50.0	05/21/15 11:28	
1,1,2,2-Tetrachloroethane	ug/kg	<17.5	50.0	05/21/15 11:28	
1,1,2-Trichloroethane	ug/kg	<20.2	50.0	05/21/15 11:28	
1,1-Dichloroethane	ug/kg	<17.6	50.0	05/21/15 11:28	
1,1-Dichloroethene	ug/kg	<17.6	50.0	05/21/15 11:28	
1,1-Dichloropropene	ug/kg	<14.0	50.0	05/21/15 11:28	
1,2,3-Trichlorobenzene	ug/kg	<17.0	50.0	05/21/15 11:28	
1,2,3-Trichloropropane	ug/kg	<22.3	50.0	05/21/15 11:28	
1,2,4-Trichlorobenzene	ug/kg	<47.6	250	05/21/15 11:28	
1,2,4-Trimethylbenzene	ug/kg	<12.2	50.0	05/21/15 11:28	
1,2-Dibromo-3-chloropropane	ug/kg	<91.2	250	05/21/15 11:28	
1,2-Dibromoethane (EDB)	ug/kg	<14.7	50.0	05/21/15 11:28	
1,2-Dichlorobenzene	ug/kg	<16.2	50.0	05/21/15 11:28	
1,2-Dichloroethane	ug/kg	<15.0	50.0	05/21/15 11:28	
1,2-Dichloropropane	ug/kg	<16.8	50.0	05/21/15 11:28	
1,3,5-Trimethylbenzene	ug/kg	<14.5	50.0	05/21/15 11:28	
1,3-Dichlorobenzene	ug/kg	<13.2	50.0	05/21/15 11:28	
1,3-Dichloropropane	ug/kg	<12.0	50.0	05/21/15 11:28	
1,4-Dichlorobenzene	ug/kg	<15.9	50.0	05/21/15 11:28	
2,2-Dichloropropane	ug/kg	<12.6	50.0	05/21/15 11:28	
2-Chlorotoluene	ug/kg	<15.8	50.0	05/21/15 11:28	
4-Chlorotoluene	ug/kg	<13.0	50.0	05/21/15 11:28	
Benzene	ug/kg	<9.2	20.0	05/21/15 11:28	
Bromobenzene	ug/kg	<20.6	50.0	05/21/15 11:28	
Bromochloromethane	ug/kg	<21.4	50.0	05/21/15 11:28	
Bromodichloromethane	ug/kg	<9.8	50.0	05/21/15 11:28	
Bromoform	ug/kg	<19.8	50.0	05/21/15 11:28	
Bromomethane	ug/kg	<69.9	250	05/21/15 11:28	
Carbon tetrachloride	ug/kg	<12.1	50.0	05/21/15 11:28	
Chlorobenzene	ug/kg	<14.8	50.0	05/21/15 11:28	
Chloroethane	ug/kg	<67.0	250	05/21/15 11:28	
Chloroform	ug/kg	<46.4	250	05/21/15 11:28	
Chloromethane	ug/kg	<20.4	50.0	05/21/15 11:28	
cis-1,2-Dichloroethene	ug/kg	<16.6	50.0	05/21/15 11:28	
cis-1,3-Dichloropropene	ug/kg	<16.6	50.0	05/21/15 11:28	
Dibromochloromethane	ug/kg	<17.9	50.0	05/21/15 11:28	
Dibromomethane	ug/kg	<19.3	50.0	05/21/15 11:28	
Dichlorodifluoromethane	ug/kg	<12.3	50.0	05/21/15 11:28	
Diisopropyl ether	ug/kg	<17.7	50.0	05/21/15 11:28	
Ethylbenzene	ug/kg	<12.4	50.0	05/21/15 11:28	

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

METHOD BLANK: 1161762

Matrix: Solid

Associated Lab Samples: 40114981008, 40114981009, 40114981010, 40114981011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	<24.5	50.0	05/21/15 11:28	
Isopropylbenzene (Cumene)	ug/kg	<12.6	50.0	05/21/15 11:28	
m&p-Xylene	ug/kg	<34.4	100	05/21/15 11:28	
Methyl-tert-butyl ether	ug/kg	<12.7	50.0	05/21/15 11:28	
Methylene Chloride	ug/kg	<16.2	50.0	05/21/15 11:28	
n-Butylbenzene	ug/kg	<10.5	50.0	05/21/15 11:28	
n-Propylbenzene	ug/kg	<11.6	50.0	05/21/15 11:28	
Naphthalene	ug/kg	<40.0	250	05/21/15 11:28	
o-Xylene	ug/kg	<14.0	50.0	05/21/15 11:28	
p-Isopropyltoluene	ug/kg	<12.0	50.0	05/21/15 11:28	
sec-Butylbenzene	ug/kg	<11.9	50.0	05/21/15 11:28	
Styrene	ug/kg	<9.0	50.0	05/21/15 11:28	
tert-Butylbenzene	ug/kg	<9.5	50.0	05/21/15 11:28	
Tetrachloroethene	ug/kg	<12.9	50.0	05/21/15 11:28	
Toluene	ug/kg	<11.2	50.0	05/21/15 11:28	
trans-1,2-Dichloroethene	ug/kg	<16.5	50.0	05/21/15 11:28	
trans-1,3-Dichloropropene	ug/kg	<14.4	50.0	05/21/15 11:28	
Trichloroethene	ug/kg	<23.6	50.0	05/21/15 11:28	
Trichlorofluoromethane	ug/kg	<24.7	50.0	05/21/15 11:28	
Vinyl chloride	ug/kg	<21.1	50.0	05/21/15 11:28	
4-Bromofluorobenzene (S)	%	86	53-134	05/21/15 11:28	
Dibromofluoromethane (S)	%	105	49-157	05/21/15 11:28	
Toluene-d8 (S)	%	102	61-148	05/21/15 11:28	

LABORATORY CONTROL SAMPLE & LCSD: 1161763

1161764

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	2500	2560	2520	103	101	70-130	2	20	
1,1,2,2-Tetrachloroethane	ug/kg	2500	2880	2720	115	109	70-130	6	20	
1,1,2-Trichloroethane	ug/kg	2500	2570	2530	103	101	70-130	1	20	
1,1-Dichloroethane	ug/kg	2500	2680	2680	107	107	70-130	0	20	
1,1-Dichloroethene	ug/kg	2500	2710	2720	108	109	70-132	0	20	
1,2,4-Trichlorobenzene	ug/kg	2500	2740	2760	110	110	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2300	2390	92	96	45-150	4	20	
1,2-Dibromoethane (EDB)	ug/kg	2500	2780	2580	111	103	70-130	7	20	
1,2-Dichlorobenzene	ug/kg	2500	2630	2570	105	103	70-130	2	20	
1,2-Dichloroethane	ug/kg	2500	2750	2700	110	108	70-134	2	20	
1,2-Dichloropropane	ug/kg	2500	2600	2540	104	102	70-130	2	20	
1,3-Dichlorobenzene	ug/kg	2500	2660	2660	106	106	70-130	0	20	
1,4-Dichlorobenzene	ug/kg	2500	2550	2540	102	102	70-130	0	20	
Benzene	ug/kg	2500	2620	2590	105	103	70-130	1	20	
Bromodichloromethane	ug/kg	2500	2560	2560	103	102	70-130	0	20	
Bromoform	ug/kg	2500	2070	2060	83	83	48-130	0	20	
Bromomethane	ug/kg	2500	2500	2600	100	104	70-169	4	20	

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QUALITY CONTROL DATA

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

LABORATORY CONTROL SAMPLE & LCSD: 1161763		1161764									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Carbon tetrachloride	ug/kg	2500	2550	2630	102	105	67-130	3	20		
Chlorobenzene	ug/kg	2500	2510	2480	100	99	70-130	1	20		
Chloroethane	ug/kg	2500	2570	2540	103	102	70-191	1	20		
Chloroform	ug/kg	2500	2680	2690	107	108	70-130	0	20		
Chloromethane	ug/kg	2500	2390	2210	96	88	52-132	8	20		
cis-1,2-Dichloroethene	ug/kg	2500	2670	2730	107	109	70-130	2	20		
cis-1,3-Dichloropropene	ug/kg	2500	2750	2690	110	108	70-130	2	20		
Dibromochloromethane	ug/kg	2500	2670	2700	107	108	65-130	1	20		
Dichlorodifluoromethane	ug/kg	2500	1740	1640	70	66	12-150	6	20		
Ethylbenzene	ug/kg	2500	2700	2650	108	106	70-130	2	20		
Isopropylbenzene (Cumene)	ug/kg	2500	2750	2680	110	107	70-130	2	20		
m&p-Xylene	ug/kg	5000	5480	5400	110	108	70-130	1	20		
Methyl-tert-butyl ether	ug/kg	2500	2810	2590	112	104	70-130	8	20		
Methylene Chloride	ug/kg	2500	2720	2640	109	106	70-131	3	20		
o-Xylene	ug/kg	2500	2670	2650	107	106	70-130	1	20		
Styrene	ug/kg	2500	2900	2860	116	115	70-130	1	20		
Tetrachloroethene	ug/kg	2500	2520	2450	101	98	70-130	3	20		
Toluene	ug/kg	2500	2570	2570	103	103	70-130	0	20		
trans-1,2-Dichloroethene	ug/kg	2500	2820	2780	113	111	69-130	1	20		
trans-1,3-Dichloropropene	ug/kg	2500	2260	2280	91	91	65-130	1	20		
Trichloroethene	ug/kg	2500	2520	2460	101	98	70-130	2	20		
Trichlorofluoromethane	ug/kg	2500	3010	2770	120	111	50-150	8	20		
Vinyl chloride	ug/kg	2500	2510	2500	100	100	67-134	0	20		
4-Bromofluorobenzene (S)	%				97	95	53-134				
Dibromofluoromethane (S)	%				110	107	49-157				
Toluene-d8 (S)	%				104	102	61-148				

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 60328684-2 KEP TREATABILITY
Pace Project No.: 40114981

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

BATCH QUALIFIERS

Batch: MSV/28549

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/28575

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

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

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

W Non-detect results are reported on a wet weight basis.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60328684-2 KEP TREATABILITY

Pace Project No.: 40114981

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40114981001	CS3-TX-1 10-14	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981002	CS3-TX-1 17-21	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981003	CS3-TX-3 10-14	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981004	CS3-TX-3 17-21	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981005	CS3-TX-2 10-14	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981006	CS3-TX-2 18-22	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981007	CS3-TX-4 10-14	EPA 5035/5030B	MSV/28548	EPA 8260	MSV/28549
40114981008	CS3-TX-4 18-22	EPA 5035/5030B	MSV/28568	EPA 8260	MSV/28575
40114981009	CS3-TX-5 10-14	EPA 5035/5030B	MSV/28568	EPA 8260	MSV/28575
40114981010	CS3-TX-5 18-22	EPA 5035/5030B	MSV/28568	EPA 8260	MSV/28575
40114981011	TRIP BLANK	EPA 5035/5030B	MSV/28568	EPA 8260	MSV/28575

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: **AECOM**
 Branch/Location: **Milwaukee**
 Project Contact: **Lanette Altenbach**
 Phone: **414-577-1363**
 Project Number: **60328684-2**
 Project Name: **KEP Treatability Bongs**
 Project State: **WISCONSIN**
 Sampled By (Print): **Andrew Piszung**
 Sampled By (Sign): *[Signature]*
 PO #:
 Regulatory Program:

Data Package Options (billable)
 EPA Level III
 EPA Level IV

MS/MSD
 On your sample (billable)
 NOT needed on your sample

Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION			MATRIX	Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
		DATE	TIME																		
001	CS3-TX-1	10-14	5/14/15	1245	S		2														
002	CS3-TX-1	17-21	5/14/15	1250	S		2														
003	CS3-TX-3	10-14	5/14/15	1400	S		2														
004	CS3-TX-3	17-21	5/14/15	1405	S		2														
005	CS3-TX-2	10-14	5/15/15	1015	S		2														
006	CS3-TX-2	18-22	5/15/15	1030	S		2														
007	CS3-TX-4	10-14	5/15/15	1200	S		2														
008	CS3-TX-4	18-22	5/15/15	1210	S		2														
009	CS3-TX-5	10-14	5/15/15	1400	S		2														
010	CS3-TX-5	18-22	5/15/15	1410	S		2														
011	TAC-2		5/15/15	1545	S			2	1	1											
011	WC-1		5/15/15	1600	S			2	1	1											
012	Tri-B Blank		5/14/15	0800	-		2														



CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED? (YES/NO)
 PRESERVATION (CODE)*

Y/N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	F	F	A	A																
Analyses Requested	VOCs	GRO	DRO	VOC (TCLP list only), PCBs, 8 RCRA Metals, TCLP, SVOCs, TCLP only, % moisture, Flashpoint, pH, paint filter, sp. gravity																

UPPER MIDWEST REGION
 MN: 612-607-1700 WI: 920-469-2436

Quote #: **40114981**

Mail To Contact: **Accounts Payable/Finance Dept**

Mail To Company: **City of Kenosha**

Mail To Address: **652 52nd St. Kenosha, WI 53140**

Invoice To Contact: **SEE ABOVE**

Invoice To Company:

Invoice To Address:

Invoice To Phone:

CLIENT COMMENTS

LAB COMMENTS (Lab Use Only)

Profile #

Analysis per Contract

ARS 7118 Cancelled (num 5-29-15) A

Donot analyze V + Hg + Pb

2.40mlVF

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:

Email #2:

Telephone:

Fax:

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *Andrew Piszung* Date/Time: **5/18/15**

Relinquished By: *Mary Fannin* Date/Time: **5/18/15**

Relinquished By: *CS Logistic* Date/Time: **5-19-15 930**

Relinquished By:

Received By: *Mary Fannin* Date/Time: **5/18/15 11:55**

Received By:

Received By: *Mari McKay* Date/Time: **5-19-15 930**

Received By:

PACE Project No. **40114981**

Receipt Temp = **201** °C

Sample Receipt pH **OK / Adjusted**

Cooler Custody Seal **Present (Not Present) Intact / Not Intact**

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #:

WO#: 40114981

Client Name: AECOM



Courier: Fed Ex UPS Client Pace Other: CS LOGISTIC

Tracking #:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: mm Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 201 /Corr: Biological Tissue is Frozen: yes

Temp Blank Present: yes no no

Person examining contents:

Date: 5-19-15

Initials: mm

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>S</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: Lanette Altobach Date/Time:

Comments/ Resolution: Sent (1) of 402 WC-2 they crossed it

out on COC. mm 5-19-15
No dry weight provided; report on as-is basis per LA. Subsample 5-19-15 out

Project Manager Review: mm

Date: 5-19-15

ATTACHMENT C



**TOTAL OXIDANT DEMAND TESTING AND
TREATABILITY TESTING
KENOSHA ENGINE PLANT
KENOSHA, WI**

**PREPARED FOR:
AECOM
1555 N. RiverCenter Drive, Suite 214
Milwaukee, WI 53212**

August 25, 2015

**ORIN Technologies, LLC.
405 Investment Court
Verona, WI 53593
Tel (608) 838-6699
Fax (608) 838-6695
www.orinrt.com**



August 25, 2015

Susan Petrofske
AECOM
1555 N. RiverCenter Drive, Suite 214
Milwaukee, WI 53212

**Subject: Persulfate, Permanganate Total Oxidant Demand (TOD) and
Treatability Testing Report for the Kenosha Engine Plant Site
Located in Kenosha, Wisconsin.**

Dear Susan:

ORIN Remediation Technologies, LLC. (ORIN) is pleased to provide AECOM this Total Oxidant Demand (TOD) and Treatability Testing report for the Kenosha Engine Plant (KEP) site located in Kenosha, Wisconsin. TOD Testing was initially conducted to determine the appropriate loading rate for the treatment chemistries during the treatability study. Once an oxidant demand was established, three samples were selected to move forward with treatability testing. The samples were dosed with varying treatment chemistry types to determine the best treatment chemistry. The testing process and results of the TOD and Treatability Testing are summarized within this report.

TOD Testing

Objective

The objective of the TOD study is to determine the amount of persulfate (in the form of sodium persulfate) and the amount of permanganate (in the form of potassium permanganate) required to oxidize natural and anthropogenic sources of organic compounds in site soil and groundwater. Sodium persulfate with alkaline activation (sodium hydroxide at stoichiometric equivalent) was implemented for the persulfate TOD, which included a series of 3 dosage rates (3, 6 and 9 g/kg soil). A 96-hour reaction time was allocated for both persulfate and permanganate oxidants.



Background

The contaminants of concern (COC) for this project are chlorinated and petroleum hydrocarbons. The samples were received on May 18, 2015 in plastic soil core liners. Each sample was lightly homogenized to obtain consistent results for potential replicates and minimize any volatile loss that may contribute to the TOD. The sample received, description, and comments are provided in Table 1.

Table 1
Sample Descriptions

Sample Name	Sample Date	Sample Matrix	Sample Comments
CS3-TX-1 10'-14'	May 18, 2015	Soil	Silt and Poorly Graded Sand, (ML) (SP), fine sand, trace clay to 12', trace silt and clay, trace fine to coarse angular gravel, non-plastic, greyish brown 2.5Y5/2, no odor, moist.
CS3-TX-2 10'-14'	May 18, 2015	soil	Silt and Lean Clay, (ML) (SP), occasional fine sand seam, plastic to non-plastic, greyish brown 2.5Y5/2, no odor, moist.
CS3-TX-3 10'-14'	May 18, 2015	soil	Poorly Graded Sand, (SP), trace silt and clay, 2 cm zone with fine to coarse gravel, 2 cm clay inclusions, non-plastic, greyish brown 2.5Y5/2, no odor, moist.
CS3-TX-4 10'-14'	May 18, 2015	soil	Silt and Lean Clay, (ML) (SP), occasional fine sand seam, plastic to non-plastic, greyish brown 2.5Y5/2, no odor, moist to wet.
CS3-TX-5 10'-14'	May 18, 2015	soil	Lean Clay and Poorly Graded Sand, (CL) (SP), with fine sand, fine to coarse gravel, trace clay and silt, dark brown NAPL, plastic to non-plastic, greyish brown 2.5Y5/2, strong petroleum odor, moist to wet.
CS3-TX-1 17'-21'	May 18, 2015	soil	Silt, (ML), with fine sand, trace clay, trace fine gravel at the base, non-plastic, greyish brown 2.5Y5/2, no odor, moist.
CS3-TX-2 18'-22'	May 18, 2015	soil	Lean Clay and Poorly Graded Sand, (CL) (SP), fine sand, occasional pebble, plastic to non-plastic, greyish brown 2.5Y5/2, strong petroleum odor, moist.
CS3-TX-3 17'-21'	May 18, 2015	soil	Poorly Graded Sand and Silt, (SP) (ML) (CL) trace silt and clay grading to a hard Lean Clay, plastic to non-plastic, greyish brown 2.5Y5/2, petroleum odor, moist.
CS3-TX-4 18'-22'	May 18, 2015	soil	Poorly Graded Sand, (SP), trace silt, clay and coarse gravel, non-plastic, greyish brown 2.5Y5/2, petroleum odor, moist.
CS3-TX-5 18'-22'	May 18, 2015	soil	Silt, Lean Clay and Poorly Graded Sand, (ML) (CL) (SP), fine sand, occasional pebble, plastic to non-plastic, greyish brown 2.5Y5/2, no odor, moist.

Persulfate TOD Methodology:

Testing conformed with procedures comparable to those discussed by Haselow et. al 2003 and in PeroxyChem's (formerly FMC) Persulfate Technical bulletin. A soil to liquid ratio of 30g soil to 50ml liquid was used during this study. The liquid used for testing was deionized water. Each sample was set up with the following series of persulfate dosages: 0 (blank), 3, 6 and 9 g/kg soil. Alkaline activation was performed using sodium hydroxide, added at the stoichiometric rate of 0.336 grams (solid) per gram of sodium persulfate.

Each persulfate sample was left to react at ambient temperature for 96 hours. During which period, the sample reaction containers were occasionally agitated to expose solid particle surfaces to the persulfate. As necessary, the samples were centrifuged to assist in the titration process. Residual persulfate was determined, with an aliquot of the sample decanted, by back titration of a standard ferrous ammonium sulfate (FAS) solution using a standard potassium permanganate solution.

Analysis of residual persulfate in samples with large excesses of the persulfate can show a positive bias for the TOD because the series of complex post-activated persulfate products. The sample with the least amount of residual persulfate is likely to have the least positive bias. Therefore, the result for the dosage having the lowest positive test for persulfate was reported for each soil sample.

Permanganate TOD Methodology:

Testing conformed with procedures similar to ASTM 7262-10. Each sample was set up with the following series of permanganate dosages: 0 (blank), 3, 6 and 9 g/kg soil. The liquid used for testing was deionized water.

Each permanganate sample was left to react at ambient temperature for 96 hours. During which period, the sample reaction containers were occasionally agitated to expose solid particle surfaces to the permanganate. The supernatant from each reaction container was passed through a 0.45 μ filter. The analysis was performed on the filtrate using a colorimeter for absorbance at 526 nm. Residual permanganate was determined by comparing the absorbance values to a standard curve generated for the sample analysis.

Analysis of residual permanganate in samples with large excesses of the permanganate can show a positive bias for the TOD because the permanganate can oxidize Mn^{2+} to manganese dioxide (MnO_2) and can catalyze the

decomposition of permanganate. Therefore, the sample with the least amount of residual permanganate (likely to have the least positive bias) is used to make the TOD determination.

Results

The samples were set up with activated persulfate dosages on May 22, 2015. The titrations were performed on May 26, 2015. An aliquot of the liquid fraction was used to determine residual persulfate by titration. TOD is reported in grams of oxidant per kilogram of saturated soil. The TOD results for the dosage having the lowest positive test for persulfate is provided in Table 2.

Table 2
Sodium Persulfate TOD (96 hour) Results Using Alkaline Activation

Sample	Blank Soil pH	Tested Dosage (g/kg)	Activator NaOH (25% solution) (g/kg)	Final pH	Persulfate TOD (g/kg)
CS3-TX-1 10'-14'	7.5	3.0	2.8	7.6	2.1
CS3-TX-2 10'-14'	7.6	3.0	2.8	8.7	2.1
CS3-TX-3 10'-14'	7.6	3.0	3.9	7.4	2.9
CS3-TX-4 10'-14'	11.7	3.0	3.8	11.5	2.8
CS3-TX-5 10'-14'	10.0	3.0	2.8	8.6	2.1
CS3-TX-1 17'-21'	8.2	3.0	3.2	8.0	2.4
CS3-TX-2 18'-22'	8.1	3.0	3.2	7.8	2.4
CS3-TX-3 17'-21'	7.8	3.0	2.9	8.0	2.1
CS3-TX-4 18'-22'	7.8	3.0	2.9	7.7	2.2
CS3-TX-5 18'-22'	7.7	3.0	2.9	7.7	2.2

The samples were set up with permanganate dosages on May 22, 2015. The analyses were performed on May 26, 2015. The TOD from the lowest positive result for permanganate is reported in Table 3.

Table 3
Sodium Permanganate TOD (96 hour) Results

Sample Description	Tested Dosage (g/kg)	TOD est. from reacted KMnO4 (g/kg)
CS3-TX-1 10'-14'	3.0	2.2
CS3-TX-2 10'-14'	3.0	2.1
CS3-TX-3 10'-14'	3.0	2.5
CS3-TX-4 10'-14'	3.0	2.4
CS3-TX-5 10'-14'	3.0	2.1
CS3-TX-1 17'-21'	3.0	2.4
CS3-TX-2 18'-22'	3.0	2.4
CS3-TX-3 17'-21'	3.0	2.1
CS3-TX-4 18'-22'	3.0	2.1
CS3-TX-5 18'-22'	3.0	2.1

TREATABILITY TESTING

Objective

The objective of this treatability study is to determine the most effective treatment chemistry for the destruction of Contaminants of Concern (COC) at the site. During the study, ORIN evaluated several potential treatment chemistries. The following tables show the treatment chemistry blends used for each soil sample. Based on the TOD results and soil evaluation, samples CS3-TX-2 18 - 22', CS3-TX-3 10 - 14', and CS3-TX-5 10 - 14' were chosen for treatability testing. The treatment chemistry dosing is reported in Table 4.

Table 4
Treatability Chemistry Dosing

Chemistry	Soil (g)	Water (ml)	Soil Oxidant Loading Rate (g/kg)	Amendments	Amendment Quantity
Alkaline Persulfate	200	100	3	Sodium Persulfate	0.6 g
				50% Sodium Hydroxide	260 ul
Sodium Persulfate / Iron Activation	200	100	3	Sodium Persulfate	0.6 g
				AO TECH	7.5 ul
Alkaline Persulfate/ Calcium Peroxide	200	100	3	Sodium Persulfate	0.6 g
				PermeOx Plus	0.16 g
				50% Sodium Hydroxide	150 ul
Sodium Permanganate	200	100	3	40% Sodium Permanganate	2.05 ml
RegenOx	200	100	3	RegenOx Part A	0.3 g
				RegenOx Part B	0.3 g

Materials

Sodium Persulfate - $\text{Na}_2\text{S}_2\text{O}_8$. Sigma Aldrich reagent grade.

Sodium Hydroxide - NaOH . JT Baker reagent grade.

Sodium Permanganate - NaMnO_4 . Sigma Aldrich reagent grade

Calcium Peroxide - A proprietary form of calcium peroxide. Provided under the trade name PermeOx Plus.

RegenOX Part A- A proprietary blend of sodium percarbonate, sodium carbonate, sodium silicate and silica gel



RegenOX Part B- A proprietary blend of sodium silicate solutions, silica gel and ferrous sulfate

Methodology

Treatability testing samples were prepared by adding 200 grams of composited soil to 500 ml reactor jars. A soil composite was first made for each area of concern by thoroughly mixing the soil cores together in a stainless steel bowl, being careful to minimize volatilization. The control samples were prepared by adding 100 ml of site groundwater to 200 grams of soil. Each control sample was allowed to react for the same time period (t=11 days) and handled in the same manner as the treated samples. ORIN mixed treatment chemistry blends with site groundwater, and then applied the solution to the site soils in the reactor jars. After the treatment chemistry application the reactor jars were inverted 4 times to disperse the treatment chemistries, including control samples for consistency. Samples were then allowed to react for a period of 11 days.

Analysis of the samples was performed by ECCS Laboratories for VOCs by method EPA 8260B. The samples were analyzed after an 11 day reaction time. For treatability testing the soil slurry fraction was analyzed. Analytes that were below the method detection limit for all samples were excluded from the table.

Table 5
TX-2 Percent Reductions

TX-2											
Treatment Chemistry	Control	Sodium Persulfate + Caustic Soda		Sodium Persulfate + Iron		Sodium Persulfate + PermeOx + Caustic Soda		Sodium Permanganate		RegenOx	
Analyte	Result (ug/kg)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)
trans-1,2-Dichloroethene	280	<260	>7.14	<250	>10.71	<240	>14.29	<240	>14.29	<250	>10.71
cis-1,2-Dichloroethane	3000	1300	56.67	1600	46.67	1500	50.00	<240	92.00	930	69
Trichloroethene	62000	49000	20.97	52000	16.13	51000	17.74	13000	79.03	48000	22.58
TOTALS	65280	50300	22.9%	53600	17.9%	52500	19.6%	13000	80.1%	48930	25.0%

Table 6
TX-3 Percent Reductions

TX-3											
Treatment Chemistry	Control	Sodium Persulfate + Caustic Soda		Sodium Persulfate + Iron		Sodium Persulfate + PermeOx + Caustic Soda		Sodium Permanganate		RegenOx	
Analyte	Result (ug/kg)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)
trans-1,2-Dichloroethene	<240	350	-45.83	330	-37.50	250	-4.17	<240	-	<250	-
cis-1,2-Dichloroethene	12000	11000	8.33	8600	28.33	11000	8.33	680	94.33	9800	18.33
Ethylbenzene	460	630	-36.96	390	15.22	690	-50.00	540	-17.39	620	-34.78
Trichloroethene	17000	23000	-35.29	18000	-5.88	25000	-47.06	4100	75.88	21000	-23.53
Vinyl Chloride	730	510	30.14	410	43.84	430	41.10	<240	100.00	440	39.73
Totals	30190	35490	-17.6%	27730	8.1%	37370	-23.8%	5320	82.4%	31860	-5.5%



**Table 7
TX-5 Percent Reductions**

TX-5											
Treatment Chemistry	Control	Sodium Persulfate + Caustic Soda		Sodium Persulfate + Iron		Sodium Persulfate + PermeOx +Caustic Soda		Sodium Permanganate		RegenOx	
		Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)	Result (ug/kg)	Percent Reduction (%)
Benzenze	100	94	6	85	15	66	34	97	3	61	39
trans-1,2-Dichloroethene	71	71	0	130	-83.10	37	47.89	<24	>66.20	36	49.30
cis-1,2-Dichloroethene	2300	1300	43.48	1600	30.43	1500	34.78	120	94.78	1300	43.48
Trichloroethene	940	980	-4.26	420	55.32	410	56.38	280	70.21	370	60.64
Vinyl chloride	310	<25	>91.94	25	91.94	36	88.39	<24	>92.26	52	83.23
m,p-Xylene	150	130	13.33	110	26.67	71	52.67	84	44	63	58
1,2,4-Trimethylbenzene	<25	<25	-	24	-	<25	-	<24	-	<25	-
o-Xylene	<25	<25	-	110	-77.27	68	-63.24	73	-65.75	64	-60.94
Toluene	<25	<25	-	<24	-	<25	-	24	-	<25	-
Totals	3871	2575	33.5%	2504	35.3%	2188	43.5%	678	82.5%	1946	49.7%

Treatability Results

The best treatment chemistry for COC reduction was sodium permanganate for all 3 treated samples. Total percent reductions with sodium permanganate for TX-2, TX-3, & TX-5 were 80.1%, 82.4%, and 82.5% respectfully. The TX-2 sample had the highest concentration of TCE and total COC's in its control. TCE concentrations were 62,000 ug/kg and total COC's concentrations were 65,280 ug/kg. TX-3 control concentrations were 17,000 ug/kg of TCE and 30,190 ug/kg for total COC's. TX-5 control concentrations were 940 ug/kg of TCE and 3,871 ug/kg for total COC's.

Conclusions

The treatability study concluded that sodium permanganate is the best treatment chemistry option for destruction of TCE and associated daughter products. Chemical loading of 3 g/kg would be a feasible and cost effective option. All other treatment chemistry options had inconclusive results for success.

During the 11 day reaction time a visual observations of color were made of sodium permanganate consumption. The TX-3's sodium permanganate loading was consumed after approximately 4 days of reaction time. The TX-2's sodium permanganate loading was consumed after approximately 9 days of reaction time. The TX-5's sodium permanganate loading was consumed after approximately 11 days. The consumption rate and oxidant longevity will vary across the site based on the location, geochemical consistency, and contaminate loading, nevertheless we expect favorable destruction of the COC's based on the treatability results.

Results from the other oxidants tested were not as favorable. Reasons behind the trend and specifically for the TX-3 sample can be linked to contaminant desorption and incomplete mineralization. The desorbed contaminants would not have been able to be completely oxidized in the amount of reaction time and allowed them to be available during analytical testing.

Please contact me with any questions at lkinsman@orinrt.com or (608) 445-7707.
Sincerely,

Larry Kinsman

Principal
ORIN Technologies



Attachment - Laboratory Analytical Report



2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

July 01, 2015

Larry Kinsman
Orin Remediation Technologies
405 Investment Ct
Verona, WI 53593
RE: AECOM KEP

Enclosed are the analytical results for the samples received by the laboratory on 06/19/2015.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

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

Sincerely,

Jessica Esser
Project Manager

Certification List

			Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2016
ILEPA	Illinois Secondary NELAP Accreditation	003174	04/30/2016
KDHE	Kansas Secondary NELAP Accreditation	E-10384	07/31/2015
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2016
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	09/30/2015
ODEQ	Oklahoma Department of Environmental Quality Accreditation	2014-153	08/31/2015
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2015



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Orin Remediation Technologies
405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
TX-2-1	A152604-01	Soil	06/19/2015	06/19/2015
TX-2-2	A152604-02	Soil	06/19/2015	06/19/2015
TX-2-3	A152604-03	Soil	06/19/2015	06/19/2015
TX-2-4	A152604-04	Soil	06/19/2015	06/19/2015
TX-2-5	A152604-05	Soil	06/19/2015	06/19/2015
TX-2-6	A152604-06	Soil	06/19/2015	06/19/2015
TX-2-7	A152604-07	Soil	06/19/2015	06/19/2015
TX-2-8	A152604-08	Soil	06/19/2015	06/19/2015
TX-2-9	A152604-09	Soil	06/19/2015	06/19/2015
TX-3-1	A152604-10	Soil	06/19/2015	06/19/2015
TX-3-2	A152604-11	Soil	06/19/2015	06/19/2015
TX-3-3	A152604-12	Soil	06/19/2015	06/19/2015
TX-3-4	A152604-13	Soil	06/19/2015	06/19/2015
TX-3-5	A152604-14	Soil	06/19/2015	06/19/2015
TX-3-6	A152604-15	Soil	06/19/2015	06/19/2015
TX-3-7	A152604-16	Soil	06/19/2015	06/19/2015
TX-3-8	A152604-17	Soil	06/19/2015	06/19/2015
TX-3-9	A152604-18	Soil	06/19/2015	06/19/2015
TX-5-1	A152604-19	Soil	06/19/2015	06/19/2015
TX-5-2	A152604-20	Soil	06/19/2015	06/19/2015
TX-5-3	A152604-21	Soil	06/19/2015	06/19/2015
TX-5-4	A152604-22	Soil	06/19/2015	06/19/2015
TX-5-5	A152604-23	Soil	06/19/2015	06/19/2015
TX-5-6	A152604-24	Soil	06/19/2015	06/19/2015
TX-5-7	A152604-25	Soil	06/19/2015	06/19/2015
TX-5-8	A152604-26	Soil	06/19/2015	06/19/2015
TX-5-9	A152604-27	Soil	06/19/2015	06/19/2015
MeOH Blank	A152604-28	Soil	06/19/2015	06/19/2015



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Orin Remediation Technologies
405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

CASE NARRATIVE

Sample Receipt Information:

28 samples were received on 06/19/2015. Samples were received on ice. Samples were received in acceptable condition.

Please see the chain of custody (COC) document at the end of this report for additional information.

Continuing Calibration Verification (CCV):

The LC footnote on multiple samples states that there were low CCV recoveries for carbon tetrachloride and methyl t-butyl ether. The lower control limit is 70%, and the lowest recoveries were 45.6% and 57.8%, respectively.

CCV also indicates a potential high bias for multiple compounds for the VOCs by method 8260 analysis. All samples were less than the reporting limit for these analytes with the exception of multiple samples for vinyl chloride. The upper control limit for vinyl chloride is 120% and the highest recovery was 154%. These detections are footnoted with an HC. For the samples where results were less than the reporting limit no further action is required.

Method Blanks:

1,2,4-Trimethylbenzene, m,p-xylene, o-xylene and toluene were present in A506093-BLK1 at 3.0 ug/kg, 11 ug/kg, 11 ug/kg and 3.5 ug/kg, respectively.

Laboratory Control Samples (LCS):

The E1 footnote on multiple samples indicates that there were quality control sample exceedances for multiple compounds for the VOCs by method 8260 analysis. The LCS recoveries were below acceptable limits. Please see the quality control section of the report for more information.

The LCS recovery also indicates a potential high bias for multiple compounds for the VOCs by method 8260 analysis. Any affected samples were less than the reporting limit for these analytes so no further action is required.

Additional Comments:

All samples are reported on an as is (wet weight) basis.



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Orin Remediation Technologies
 405 Investment Ct
 Verona WI, 53593

Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-1
A152604-01 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Bromobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Bromochloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Bromodichloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Bromoform	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Bromomethane	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
2-Butanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
n-Butyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
sec-Butyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
tert-Butylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Carbon disulfide	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Carbon tetrachloride	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Chlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Chloroethane	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Chloroform	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Chloromethane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
2-Chlorotoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
4-Chlorotoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Dibromochloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Dibromomethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,4-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,3-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Dichlorodifluoromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1-Dichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2-Dichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
cis-1,2-Dichloroethene	1300	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	D
1,1-Dichloroethene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
2,2-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,3-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
cis-1,3-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
trans-1,3-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Diisopropyl Ether	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	



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405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-1
A152604-01 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Hexachlorobutadiene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
n-Hexane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
2-Hexanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Isopropylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
p-Isopropyltoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Methylene chloride	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
4-Methyl-2-pentanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Methyl t-Butyl Ether	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Naphthalene	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
n-Propyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Styrene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Tetrachloroethene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Tetrahydrofuran	ND	5100	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Toluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1,1-Trichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1,2-Trichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Trichloroethene	49000	2600	ug/kg wet	100	06/23/2015	06/24/2015 11:42	EPA 8260B	D
Trichlorofluoromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2,3-Trichloropropane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,3,5-Trimethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
1,2,4-Trimethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Vinyl chloride	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
m,p-Xylene	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
o-Xylene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 12:43	EPA 8260B	
Surrogate: Dibromofluoromethane		96.6 %		84.7-120	06/23/2015	06/23/2015 12:43	EPA 8260B	
Surrogate: Toluene-d8		96.6 %		90.5-108	06/23/2015	06/23/2015 12:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.0 %		88.3-113	06/23/2015	06/23/2015 12:43	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-2

A152604-02 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
2-Butanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1, LC
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Chloromethane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
cis-1,2-Dichloroethene	1600	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1



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Orin Remediation Technologies
405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-2
A152604-02 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Ethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Hexachlorobutadiene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
2-Hexanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Methylene chloride	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
4-Methyl-2-pentanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1, LC
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Tetrahydrofuran	ND	5000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Trichloroethene	52000	2500	ug/kg wet	100	06/23/2015	06/24/2015 12:04	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2,3-Trichloropropane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Vinyl chloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
m,p-Xylene	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 13:05	EPA 8260B	
Surrogate: Dibromofluoromethane		99.8 %		84.7-120	06/23/2015	06/23/2015 13:05	EPA 8260B	
Surrogate: Toluene-d8		105 %		90.5-108	06/23/2015	06/23/2015 13:05	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.8 %		88.3-113	06/23/2015	06/23/2015 13:05	EPA 8260B	



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-3

A152604-03 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9700	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
2-Butanone	ND	9700	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
cis-1,2-Dichloroethene	1500	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	D
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	



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Orin Remediation Technologies
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 Verona WI, 53593

Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-3
A152604-03 (Soil)

Date Sampled
 06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Hexachlorobutadiene	ND	970	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
2-Hexanone	ND	9700	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Methylene chloride	ND	970	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
4-Methyl-2-pentanone	ND	9700	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2,3-Trichlorobenzene	ND	970	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2,4-Trichlorobenzene	ND	970	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Trichloroethene	51000	2400	ug/kg wet	100	06/23/2015	06/24/2015 12:26	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Vinyl chloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:27	EPA 8260B	
Surrogate: Dibromofluoromethane		100 %	84.7-120		06/23/2015	06/23/2015 13:27	EPA 8260B	
Surrogate: Toluene-d8		98.2 %	90.5-108		06/23/2015	06/23/2015 13:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.8 %	88.3-113		06/23/2015	06/23/2015 13:27	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-4

A152604-04 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Acetone	ND	9600	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
2-Butanone	ND	9600	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1, LC
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Chloromethane	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1



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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-4

A152604-04 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Ethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Hexachlorobutadiene	ND	960	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
2-Hexanone	ND	9600	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Methylene chloride	ND	960	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
4-Methyl-2-pentanone	ND	9600	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1, LC
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Tetrahydrofuran	ND	4800	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	960	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	960	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Trichloroethene	13000	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2,3-Trichloropropane	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Vinyl chloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
m,p-Xylene	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 13:50	EPA 8260B	
Surrogate: Dibromofluoromethane		101 %		84.7-120	06/23/2015	06/23/2015 13:50	EPA 8260B	
Surrogate: Toluene-d8		98.8 %		90.5-108	06/23/2015	06/23/2015 13:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		90.8 %		88.3-113	06/23/2015	06/23/2015 13:50	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-5
A152604-05 (Soil)

Date Sampled
 06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
2-Butanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
cis-1,2-Dichloroethene	930	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-5
A152604-05 (Soil)

Date Sampled
 06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Hexachlorobutadiene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
2-Hexanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Methylene chloride	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
4-Methyl-2-pentanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Trichloroethene	48000	2500	ug/kg wet	100	06/23/2015	06/24/2015 13:09	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Vinyl chloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:12	EPA 8260B	
Surrogate: Dibromofluoromethane		102 %		84.7-120	06/23/2015	06/23/2015 14:12	EPA 8260B	
Surrogate: Toluene-d8		97.4 %		90.5-108	06/23/2015	06/23/2015 14:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.4 %		88.3-113	06/23/2015	06/23/2015 14:12	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-6

A152604-06 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
2-Butanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1, LC
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
trans-1,2-Dichloroethene	280	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	D
cis-1,2-Dichloroethene	3000	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
Ethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-6

Date Sampled

A152604-06 (Soil)

06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
2-Hexanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Methylene chloride	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
4-Methyl-2-pentanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1, LC
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2,3-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2,4-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Trichloroethene	62000	2500	ug/kg wet	100	06/23/2015	06/24/2015 12:47	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Vinyl chloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:34	EPA 8260B	
Surrogate: Dibromofluoromethane		105 %		84.7-120	06/23/2015	06/23/2015 14:34	EPA 8260B	
Surrogate: Toluene-d8		99.4 %		90.5-108	06/23/2015	06/23/2015 14:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.4 %		88.3-113	06/23/2015	06/23/2015 14:34	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-7

A152604-07 (Soil)

Date Sampled
 06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
2-Butanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
cis-1,2-Dichloroethene	2000	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	



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Orin Remediation Technologies
405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-7

A152604-07 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Hexachlorobutadiene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
2-Hexanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Methylene chloride	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
4-Methyl-2-pentanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Trichloroethene	23000	2500	ug/kg wet	100	06/23/2015	06/24/2015 13:53	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Vinyl chloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 14:56	EPA 8260B	
Surrogate: Dibromofluoromethane		102 %		84.7-120	06/23/2015	06/23/2015 14:56	EPA 8260B	
Surrogate: Toluene-d8		97.4 %		90.5-108	06/23/2015	06/23/2015 14:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.4 %		88.3-113	06/23/2015	06/23/2015 14:56	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-8

A152604-08 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	9200	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Benzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Bromobenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Bromochloromethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Bromodichloromethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Bromoform	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Bromomethane	ND	2300	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
2-Butanone	ND	9200	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
n-Butyl Benzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
sec-Butyl Benzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
tert-Butylbenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Carbon disulfide	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Carbon tetrachloride	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1, LC
Chlorobenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Chloroethane	ND	2300	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Chloroform	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Chloromethane	ND	460	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
2-Chlorotoluene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
4-Chlorotoluene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Dibromochloromethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
Dibromomethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2-Dichlorobenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,4-Dichlorobenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,3-Dichlorobenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Dichlorodifluoromethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,1-Dichloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2-Dichloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
cis-1,2-Dichloroethene	2000	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	D
1,1-Dichloroethene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
2,2-Dichloropropane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2-Dichloropropane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,3-Dichloropropane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
1,1-Dichloropropene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
Diisopropyl Ether	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-8

A152604-08 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Ethylbenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Hexachlorobutadiene	ND	920	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
n-Hexane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
2-Hexanone	ND	9200	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Isopropylbenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
p-Isopropyltoluene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Methylene chloride	ND	920	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
4-Methyl-2-pentanone	ND	9200	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Methyl t-Butyl Ether	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1, LC
Naphthalene	ND	2300	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
n-Propyl Benzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Styrene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Tetrachloroethene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Tetrahydrofuran	ND	4600	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Toluene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2,3-Trichlorobenzene	ND	920	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2,4-Trichlorobenzene	ND	920	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,1,1-Trichloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,1,2-Trichloroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Trichloroethene	28000	2300	ug/kg wet	100	06/23/2015	06/24/2015 13:31	EPA 8260B	D
Trichlorofluoromethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2,3-Trichloropropane	ND	460	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,3,5-Trimethylbenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
1,2,4-Trimethylbenzene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Vinyl chloride	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
m,p-Xylene	ND	460	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
o-Xylene	ND	230	ug/kg wet	10	06/23/2015	06/23/2015 15:18	EPA 8260B	
Surrogate: Dibromofluoromethane		108 %	84.7-120		06/23/2015	06/23/2015 15:18	EPA 8260B	
Surrogate: Toluene-d8		102 %	90.5-108		06/23/2015	06/23/2015 15:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		92.4 %	88.3-113		06/23/2015	06/23/2015 15:18	EPA 8260B	



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 Verona WI, 53593

Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-2-9

A152604-09 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
2-Butanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Chloromethane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
cis-1,2-Dichloroethene	1500	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-2-9
A152604-09 (Soil)

Date Sampled
06/19/2015 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Hexachlorobutadiene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
2-Hexanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Methylene chloride	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
4-Methyl-2-pentanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Tetrahydrofuran	ND	5000	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Trichloroethene	12000	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2,3-Trichloropropane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Vinyl chloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
m,p-Xylene	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 15:40	EPA 8260B	
Surrogate: Dibromofluoromethane		101 %	84.7-120		06/23/2015	06/23/2015 15:40	EPA 8260B	
Surrogate: Toluene-d8		97.6 %	90.5-108		06/23/2015	06/23/2015 15:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.0 %	88.3-113		06/23/2015	06/23/2015 15:40	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-1
A152604-10 (Soil)

Date Sampled
 06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
2-Butanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1, LC
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Chloromethane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
trans-1,2-Dichloroethene	350	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	D
cis-1,2-Dichloroethene	11000	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
Ethylbenzene	630	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	D



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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-1

A152604-10 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
2-Hexanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Methylene chloride	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
4-Methyl-2-pentanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1, LC
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Tetrahydrofuran	ND	5000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Trichloroethene	23000	2500	ug/kg wet	100	06/23/2015	06/24/2015 14:16	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2,3-Trichloropropane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
Vinyl chloride	510	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	HC, D
m,p-Xylene	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:02	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		<i>106 %</i>		<i>84.7-120</i>	<i>06/23/2015</i>	<i>06/23/2015 16:02</i>	<i>EPA 8260B</i>	
<i>Surrogate: Toluene-d8</i>		<i>101 %</i>		<i>90.5-108</i>	<i>06/23/2015</i>	<i>06/23/2015 16:02</i>	<i>EPA 8260B</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>96.4 %</i>		<i>88.3-113</i>	<i>06/23/2015</i>	<i>06/23/2015 16:02</i>	<i>EPA 8260B</i>	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-2

A152604-11 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
2-Butanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Chloromethane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
trans-1,2-Dichloroethene	330	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	D
cis-1,2-Dichloroethene	8600	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Ethylbenzene	390	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	D



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-2

A152604-11 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
2-Hexanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Methylene chloride	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
4-Methyl-2-pentanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Tetrahydrofuran	ND	5100	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Trichloroethene	18000	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2,3-Trichloropropane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
Vinyl chloride	410	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	HC, D
m,p-Xylene	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 16:24	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		101 %		84.7-120	06/23/2015	06/23/2015 16:24	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		101 %		90.5-108	06/23/2015	06/23/2015 16:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		88.3-113	06/23/2015	06/23/2015 16:24	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-3

A152604-12 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Acetone	ND	9900	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
2-Butanone	ND	9900	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1, LC
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
trans-1,2-Dichloroethene	250	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	D
cis-1,2-Dichloroethene	11000	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
Ethylbenzene	690	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	D



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-3

A152604-12 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	990	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
2-Hexanone	ND	9900	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Methylene chloride	ND	990	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
4-Methyl-2-pentanone	ND	9900	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1, LC
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Trichloroethene	25000	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	D, E
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
Vinyl chloride	430	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	HC, D
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/24/2015 20:50	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		106 %		84.7-120	06/23/2015	06/24/2015 20:50	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		106 %		90.5-108	06/23/2015	06/24/2015 20:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		88.3-113	06/23/2015	06/24/2015 20:50	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-4

A152604-13 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
2-Butanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
cis-1,2-Dichloroethene	680	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	D
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Ethylbenzene	540	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	D



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-4

A152604-13 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
2-Hexanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Methylene chloride	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
4-Methyl-2-pentanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Trichloroethene	4100	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Vinyl chloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:08	EPA 8260B	
Surrogate: Dibromofluoromethane		101 %		84.7-120	06/23/2015	06/23/2015 17:08	EPA 8260B	
Surrogate: Toluene-d8		98.6 %		90.5-108	06/23/2015	06/23/2015 17:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.8 %		88.3-113	06/23/2015	06/23/2015 17:08	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-5

A152604-14 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Bromobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Bromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Bromodichloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Bromoform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Bromomethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
2-Butanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
n-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
sec-Butyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
tert-Butylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Carbon disulfide	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Carbon tetrachloride	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1, LC
Chlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Chloroethane	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Chloroform	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Chloromethane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
2-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
4-Chlorotoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Dibromochloromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
Dibromomethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,4-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,3-Dichlorobenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Dichlorodifluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,1-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2-Dichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
cis-1,2-Dichloroethene	9800	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	D
1,1-Dichloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
2,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,3-Dichloropropane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
1,1-Dichloropropene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
Diisopropyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
Ethylbenzene	620	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	D



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-5

A152604-14 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
n-Hexane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
2-Hexanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Isopropylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
p-Isopropyltoluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Methylene chloride	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
4-Methyl-2-pentanone	ND	9900	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Methyl t-Butyl Ether	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1, LC
Naphthalene	ND	2500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
n-Propyl Benzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Styrene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Tetrachloroethene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Tetrahydrofuran	ND	5000	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Toluene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2,3-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2,4-Trichlorobenzene	ND	990	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,1,1-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,1,2-Trichloroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Trichloroethene	21000	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	D
Trichlorofluoromethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2,3-Trichloropropane	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,3,5-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
1,2,4-Trimethylbenzene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
Vinyl chloride	440	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	HC, D
m,p-Xylene	ND	500	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
o-Xylene	ND	250	ug/kg wet	10	06/23/2015	06/23/2015 17:30	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		102 %		84.7-120	06/23/2015	06/23/2015 17:30	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		105 %		90.5-108	06/23/2015	06/23/2015 17:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %		88.3-113	06/23/2015	06/23/2015 17:30	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-6

A152604-15 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9500	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
2-Butanone	ND	9500	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Chloromethane	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
cis-1,2-Dichloroethene	12000	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	D
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Ethylbenzene	460	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	D



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-6

A152604-15 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	950	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
2-Hexanone	ND	9500	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Methylene chloride	ND	950	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
4-Methyl-2-pentanone	ND	9500	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Tetrahydrofuran	ND	4800	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	950	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	950	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Trichloroethene	17000	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2,3-Trichloropropane	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
Vinyl chloride	730	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	HC, D
m,p-Xylene	ND	480	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 17:52	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		99.6 %		84.7-120	06/23/2015	06/23/2015 17:52	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		99.0 %		90.5-108	06/23/2015	06/23/2015 17:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.2 %		88.3-113	06/23/2015	06/23/2015 17:52	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-7

A152604-16 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Acetone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Bromobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Bromochloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Bromodichloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Bromoform	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Bromomethane	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
2-Butanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
n-Butyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
sec-Butyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
tert-Butylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Carbon disulfide	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Carbon tetrachloride	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1, LC
Chlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Chloroethane	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Chloroform	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Chloromethane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
2-Chlorotoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
4-Chlorotoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Dibromochloromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
Dibromomethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,4-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,3-Dichlorobenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Dichlorodifluoromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,1-Dichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2-Dichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
trans-1,2-Dichloroethene	290	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	D
cis-1,2-Dichloroethene	19000	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	D
1,1-Dichloroethene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
2,2-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,3-Dichloropropane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
1,1-Dichloropropene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
Diisopropyl Ether	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
Ethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-7

A152604-16 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
n-Hexane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
2-Hexanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Isopropylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
p-Isopropyltoluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Methylene chloride	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
4-Methyl-2-pentanone	ND	10000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Methyl t-Butyl Ether	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1, LC
Naphthalene	ND	2600	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
n-Propyl Benzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Styrene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Tetrachloroethene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Tetrahydrofuran	ND	5100	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Toluene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2,4-Trichlorobenzene	ND	1000	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,1,1-Trichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,1,2-Trichloroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Trichloroethene	15000	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	D
Trichlorofluoromethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2,3-Trichloropropane	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,3,5-Trimethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
1,2,4-Trimethylbenzene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
Vinyl chloride	2200	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	HC, D
m,p-Xylene	ND	510	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
o-Xylene	ND	260	ug/kg wet	10	06/23/2015	06/23/2015 18:14	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		101 %		84.7-120	06/23/2015	06/23/2015 18:14	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		107 %		90.5-108	06/23/2015	06/23/2015 18:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		88.3-113	06/23/2015	06/23/2015 18:14	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-3-8

A152604-17 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	9400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
2-Butanone	ND	9400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Chloromethane	ND	470	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
cis-1,2-Dichloroethene	14000	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	D
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-8
A152604-17 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Hexachlorobutadiene	ND	940	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
2-Hexanone	ND	9400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Methylene chloride	ND	940	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
4-Methyl-2-pentanone	ND	9400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Tetrahydrofuran	ND	4700	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	940	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	940	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Trichloroethene	11000	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2,3-Trichloropropane	ND	470	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
Vinyl chloride	1500	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	HC, D
m,p-Xylene	ND	470	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:36	EPA 8260B	

Surrogate: Dibromofluoromethane

101 % 84.7-120

06/23/2015

06/23/2015 18:36

EPA 8260B

Surrogate: Toluene-d8

98.2 % 90.5-108

06/23/2015

06/23/2015 18:36

EPA 8260B

Surrogate: 4-Bromofluorobenzene

101 % 88.3-113

06/23/2015

06/23/2015 18:36

EPA 8260B



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-9

A152604-18 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Bromobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Bromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Bromodichloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Bromoform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Bromomethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
2-Butanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
n-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
sec-Butyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
tert-Butylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Carbon disulfide	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Carbon tetrachloride	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1, LC
Chlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Chloroethane	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Chloroform	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Chloromethane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
2-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
4-Chlorotoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Dibromochloromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
Dibromomethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,4-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,3-Dichlorobenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Dichlorodifluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,1-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2-Dichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
cis-1,2-Dichloroethene	15000	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	D
1,1-Dichloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
2,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,3-Dichloropropane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
1,1-Dichloropropene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
Diisopropyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-3-9

A152604-18 (Soil)

Date Sampled
06/19/2015 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Ethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Hexachlorobutadiene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
n-Hexane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
2-Hexanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Isopropylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
p-Isopropyltoluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Methylene chloride	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
4-Methyl-2-pentanone	ND	9800	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Methyl t-Butyl Ether	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1, LC
Naphthalene	ND	2400	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
n-Propyl Benzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Styrene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Tetrachloroethene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Tetrahydrofuran	ND	4900	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Toluene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	980	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,1,1-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,1,2-Trichloroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Trichloroethene	9600	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	D
Trichlorofluoromethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2,3-Trichloropropane	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Vinyl chloride	1300	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	HC, D
m,p-Xylene	ND	490	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
o-Xylene	ND	240	ug/kg wet	10	06/23/2015	06/23/2015 18:58	EPA 8260B	
Surrogate: Dibromofluoromethane		103 %	84.7-120		06/23/2015	06/23/2015 18:58	EPA 8260B	
Surrogate: Toluene-d8		103 %	90.5-108		06/23/2015	06/23/2015 18:58	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %	88.3-113		06/23/2015	06/23/2015 18:58	EPA 8260B	



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-1
A152604-19 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Benzene	94	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
2-Butanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
trans-1,2-Dichloroethene	71	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
cis-1,2-Dichloroethene	1300	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-1

A152604-19 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
2-Hexanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Methylene chloride	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
4-Methyl-2-pentanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Trichloroethene	980	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
Vinyl chloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
m,p-Xylene	130	50	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 14:38	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		98.0 %		84.7-120	06/23/2015	06/24/2015 14:38	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		96.2 %		90.5-108	06/23/2015	06/24/2015 14:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		88.3-113	06/23/2015	06/24/2015 14:38	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-2

Date Sampled

A152604-20 (Soil)

06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	950	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Benzene	85	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Bromobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Bromochloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Bromodichloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Bromoform	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Bromomethane	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
2-Butanone	ND	950	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
n-Butyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
sec-Butyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
tert-Butylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Carbon disulfide	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Carbon tetrachloride	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1, LC
Chlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Chloroethane	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Chloroform	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Chloromethane	ND	47	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
2-Chlorotoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
4-Chlorotoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Dibromochloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
Dibromomethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,4-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,3-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Dichlorodifluoromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1-Dichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2-Dichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
trans-1,2-Dichloroethene	130	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
cis-1,2-Dichloroethene	1600	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1-Dichloroethene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
2,2-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,3-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
1,1-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
Diisopropyl Ether	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
Ethylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-2
A152604-20 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	95	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
n-Hexane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
2-Hexanone	ND	950	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Isopropylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
p-Isopropyltoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Methylene chloride	ND	95	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
4-Methyl-2-pentanone	ND	950	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Methyl t-Butyl Ether	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1, LC
Naphthalene	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
n-Propyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Styrene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Tetrachloroethene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Tetrahydrofuran	ND	470	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Toluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	95	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	95	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1,1-Trichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1,2-Trichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Trichloroethene	420	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
Trichlorofluoromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2,3-Trichloropropane	ND	47	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	
1,2,4-Trimethylbenzene	24	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	B
Vinyl chloride	25	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	HC
m,p-Xylene	110	47	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	B
o-Xylene	110	24	ug/kg wet	1	06/23/2015	06/24/2015 15:00	EPA 8260B	B
<i>Surrogate: Dibromofluoromethane</i>		106 %		84.7-120	06/23/2015	06/24/2015 15:00	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		105 %		90.5-108	06/23/2015	06/24/2015 15:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		88.3-113	06/23/2015	06/24/2015 15:00	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-3

A152604-21 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Benzene	66	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
2-Butanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
trans-1,2-Dichloroethene	37	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
cis-1,2-Dichloroethene	1500	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	



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Orin Remediation Technologies
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Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-3

A152604-21 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
2-Hexanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Methylene chloride	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
4-Methyl-2-pentanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Trichloroethene	410	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Vinyl chloride	36	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	HC
m,p-Xylene	71	50	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
o-Xylene	68	25	ug/kg wet	1	06/23/2015	06/24/2015 15:22	EPA 8260B	
Surrogate: Dibromofluoromethane		97.8 %		84.7-120	06/23/2015	06/24/2015 15:22	EPA 8260B	
Surrogate: Toluene-d8		99.6 %		90.5-108	06/23/2015	06/24/2015 15:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.4 %		88.3-113	06/23/2015	06/24/2015 15:22	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-4

A152604-22 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	940	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Benzene	97	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Bromobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Bromochloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Bromodichloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Bromoform	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Bromomethane	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
2-Butanone	ND	940	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
n-Butyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
sec-Butyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
tert-Butylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Carbon disulfide	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Carbon tetrachloride	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1, LC
Chlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Chloroethane	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Chloroform	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Chloromethane	ND	47	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
2-Chlorotoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
4-Chlorotoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Dibromochloromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
Dibromomethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,4-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,3-Dichlorobenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Dichlorodifluoromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1-Dichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2-Dichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
cis-1,2-Dichloroethene	120	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1-Dichloroethene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
2,2-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,3-Dichloropropane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
1,1-Dichloropropene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
Diisopropyl Ether	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
Ethylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-4

A152604-22 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	94	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
n-Hexane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
2-Hexanone	ND	940	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Isopropylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
p-Isopropyltoluene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Methylene chloride	ND	94	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
4-Methyl-2-pentanone	ND	940	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Methyl t-Butyl Ether	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1, LC
Naphthalene	ND	240	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
n-Propyl Benzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Styrene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Tetrachloroethene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Tetrahydrofuran	ND	470	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Toluene	24	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	B
1,2,3-Trichlorobenzene	ND	94	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	94	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1,1-Trichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1,2-Trichloroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Trichloroethene	280	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Trichlorofluoromethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2,3-Trichloropropane	ND	47	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
1,2,4-Trimethylbenzene	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
Vinyl chloride	ND	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	
m,p-Xylene	84	47	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	B
o-Xylene	73	24	ug/kg wet	1	06/23/2015	06/24/2015 15:44	EPA 8260B	B
Surrogate: Dibromofluoromethane		106 %	84.7-120		06/23/2015	06/24/2015 15:44	EPA 8260B	
Surrogate: Toluene-d8		109 %	90.5-108		06/23/2015	06/24/2015 15:44	EPA 8260B	S
Surrogate: 4-Bromofluorobenzene		103 %	88.3-113		06/23/2015	06/24/2015 15:44	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-5
A152604-23 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	980	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Benzene	61	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
2-Butanone	ND	980	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Chloromethane	ND	49	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
trans-1,2-Dichloroethene	36	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
cis-1,2-Dichloroethene	1300	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	



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Orin Remediation Technologies
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 Verona WI, 53593

Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-5

A152604-23 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Hexachlorobutadiene	ND	98	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
2-Hexanone	ND	980	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Methylene chloride	ND	98	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
4-Methyl-2-pentanone	ND	980	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Tetrahydrofuran	ND	490	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	98	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	98	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Trichloroethene	370	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2,3-Trichloropropane	ND	49	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
Vinyl chloride	52	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	HC
m,p-Xylene	63	49	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
o-Xylene	64	25	ug/kg wet	1	06/23/2015	06/24/2015 16:06	EPA 8260B	
<i>Surrogate: Dibromofluoromethane</i>		96.2 %		84.7-120	06/23/2015	06/24/2015 16:06	EPA 8260B	
<i>Surrogate: Toluene-d8</i>		98.2 %		90.5-108	06/23/2015	06/24/2015 16:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		88.3-113	06/23/2015	06/24/2015 16:06	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-6
A152604-24 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Benzene	100	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
2-Butanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1, LC
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
trans-1,2-Dichloroethene	71	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
cis-1,2-Dichloroethene	2300	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-6
A152604-24 (Soil)

Date Sampled
 06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Hexachlorobutadiene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
2-Hexanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Methylene chloride	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
4-Methyl-2-pentanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1, LC
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Trichloroethene	940	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Vinyl chloride	310	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	HC
m,p-Xylene	150	50	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	B
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:28	EPA 8260B	
Surrogate: Dibromofluoromethane		106 %	84.7-120		06/23/2015	06/24/2015 16:28	EPA 8260B	
Surrogate: Toluene-d8		103 %	90.5-108		06/23/2015	06/24/2015 16:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %	88.3-113		06/23/2015	06/24/2015 16:28	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-7

A152604-25 (Soil)

Date Sampled
 06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
2-Butanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Chloromethane	ND	49	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
cis-1,2-Dichloroethene	1800	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-7

Date Sampled

A152604-25 (Soil)

06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Hexachlorobutadiene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
2-Hexanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Methylene chloride	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
4-Methyl-2-pentanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Tetrahydrofuran	ND	490	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Trichloroethene	130	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2,3-Trichloropropane	ND	49	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Vinyl chloride	280	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	HC
m,p-Xylene	ND	49	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 16:50	EPA 8260B	
Surrogate: Dibromofluoromethane		99.2 %		84.7-120	06/23/2015	06/24/2015 16:50	EPA 8260B	
Surrogate: Toluene-d8		98.6 %		90.5-108	06/23/2015	06/24/2015 16:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.4 %		88.3-113	06/23/2015	06/24/2015 16:50	EPA 8260B	



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Orin Remediation Technologies
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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-8
A152604-26 (Soil)

Date Sampled
 06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Acetone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
2-Butanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1, LC
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
cis-1,2-Dichloroethene	1900	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-8
A152604-26 (Soil)

Date Sampled
 06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506093

Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Hexachlorobutadiene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
2-Hexanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Methylene chloride	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
4-Methyl-2-pentanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1, LC
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	E1
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Trichloroethene	130	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
Vinyl chloride	180	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	HC
m,p-Xylene	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:12	EPA 8260B	

Surrogate: Dibromofluoromethane

107 % 84.7-120

06/23/2015

06/24/2015 17:12

EPA 8260B

Surrogate: Toluene-d8

106 % 90.5-108

06/23/2015

06/24/2015 17:12

EPA 8260B

Surrogate: 4-Bromofluorobenzene

103 % 88.3-113

06/23/2015

06/24/2015 17:12

EPA 8260B



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Orin Remediation Technologies
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 Verona WI, 53593

Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

TX-5-9

A152604-27 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Acetone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
2-Butanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
cis-1,2-Dichloroethene	1700	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

TX-5-9
A152604-27 (Soil)

Date Sampled
06/19/2015 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Hexachlorobutadiene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
2-Hexanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Methylene chloride	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
4-Methyl-2-pentanone	ND	990	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2,3-Trichlorobenzene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2,4-Trichlorobenzene	ND	99	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Trichloroethene	110	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Vinyl chloride	180	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	HC
m,p-Xylene	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 17:34	EPA 8260B	
Surrogate: Dibromofluoromethane		97.8 %		84.7-120	06/23/2015	06/24/2015 17:34	EPA 8260B	
Surrogate: Toluene-d8		98.8 %		90.5-108	06/23/2015	06/24/2015 17:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.6 %		88.3-113	06/23/2015	06/24/2015 17:34	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

MeOH Blank

A152604-28 (Soil)

Date Sampled
06/19/2015 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Acetone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Bromobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Bromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Bromodichloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Bromoform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Bromomethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
2-Butanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
n-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
sec-Butyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
tert-Butylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Carbon disulfide	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Carbon tetrachloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Chlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Chloroethane	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Chloroform	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Chloromethane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
2-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
4-Chlorotoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Dibromochloromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Dibromomethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,4-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,3-Dichlorobenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Dichlorodifluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2-Dichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1-Dichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
2,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,3-Dichloropropane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
cis-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
trans-1,3-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1-Dichloropropene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Diisopropyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

MeOH Blank
A152604-28 (Soil)

Date Sampled
06/19/2015 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS

Volatile Organic Compounds by Method 8260 - Purge and Trap

Preparation Batch: A506092

Ethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Hexachlorobutadiene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
n-Hexane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
2-Hexanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Isopropylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
p-Isopropyltoluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Methylene chloride	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
4-Methyl-2-pentanone	ND	1000	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Methyl t-Butyl Ether	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Naphthalene	ND	250	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
n-Propyl Benzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Styrene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Tetrachloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Tetrahydrofuran	ND	500	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Toluene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	100	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1,1-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1,2-Trichloroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Trichloroethene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Trichlorofluoromethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2,3-Trichloropropane	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Vinyl chloride	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
m,p-Xylene	ND	50	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
o-Xylene	ND	25	ug/kg wet	1	06/23/2015	06/24/2015 01:53	EPA 8260B	
Surrogate: Dibromofluoromethane		105 %	84.7-120		06/23/2015	06/24/2015 01:53	EPA 8260B	
Surrogate: Toluene-d8		96.2 %	90.5-108		06/23/2015	06/24/2015 01:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.4 %	88.3-113		06/23/2015	06/24/2015 01:53	EPA 8260B	



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

Blank (A506092-BLK1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 03:21

Acetone	ND	1000	ug/kg wet							
Benzene	ND	25	ug/kg wet							
Bromobenzene	ND	25	ug/kg wet							
Bromochloromethane	ND	25	ug/kg wet							
Bromodichloromethane	ND	25	ug/kg wet							
Bromoform	ND	25	ug/kg wet							
Bromomethane	ND	250	ug/kg wet							
2-Butanone	ND	1000	ug/kg wet							
n-Butyl Benzene	ND	25	ug/kg wet							
sec-Butyl Benzene	ND	25	ug/kg wet							
tert-Butylbenzene	ND	25	ug/kg wet							
Carbon disulfide	ND	25	ug/kg wet							
Carbon tetrachloride	ND	25	ug/kg wet							
Chlorobenzene	ND	25	ug/kg wet							
Chloroethane	ND	250	ug/kg wet							
Chloroform	ND	25	ug/kg wet							
Chloromethane	ND	50	ug/kg wet							
2-Chlorotoluene	ND	25	ug/kg wet							
4-Chlorotoluene	ND	25	ug/kg wet							
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet							
Dibromochloromethane	ND	25	ug/kg wet							
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet							
Dibromomethane	ND	25	ug/kg wet							
1,2-Dichlorobenzene	ND	25	ug/kg wet							
1,4-Dichlorobenzene	ND	25	ug/kg wet							
1,3-Dichlorobenzene	ND	25	ug/kg wet							
Dichlorodifluoromethane	ND	25	ug/kg wet							
1,1-Dichloroethane	ND	25	ug/kg wet							
1,2-Dichloroethane	ND	25	ug/kg wet							
trans-1,2-Dichloroethene	ND	25	ug/kg wet							
cis-1,2-Dichloroethene	ND	25	ug/kg wet							
1,1-Dichloroethene	ND	25	ug/kg wet							
2,2-Dichloropropane	ND	25	ug/kg wet							
1,2-Dichloropropane	ND	25	ug/kg wet							
1,3-Dichloropropane	ND	25	ug/kg wet							
cis-1,3-Dichloropropene	ND	25	ug/kg wet							
trans-1,3-Dichloropropene	ND	25	ug/kg wet							
1,1-Dichloropropene	ND	25	ug/kg wet							
Diisopropyl Ether	ND	25	ug/kg wet							
Ethylbenzene	ND	25	ug/kg wet							
Hexachlorobutadiene	ND	100	ug/kg wet							
n-Hexane	ND	25	ug/kg wet							
2-Hexanone	ND	1000	ug/kg wet							
Isopropylbenzene	ND	25	ug/kg wet							



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

Blank (A506092-BLK1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 03:21

p-Isopropyltoluene	ND	25	ug/kg wet							
Methylene chloride	ND	100	ug/kg wet							
4-Methyl-2-pentanone	ND	1000	ug/kg wet							
Methyl t-Butyl Ether	ND	25	ug/kg wet							
Naphthalene	ND	250	ug/kg wet							
n-Propyl Benzene	ND	25	ug/kg wet							
Styrene	ND	25	ug/kg wet							
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet							
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet							
Tetrachloroethene	ND	25	ug/kg wet							
Tetrahydrofuran	ND	500	ug/kg wet							
Toluene	ND	25	ug/kg wet							
1,2,3-Trichlorobenzene	ND	100	ug/kg wet							
1,2,4-Trichlorobenzene	ND	100	ug/kg wet							
1,1,1-Trichloroethane	ND	25	ug/kg wet							
1,1,2-Trichloroethane	ND	25	ug/kg wet							
Trichloroethene	ND	25	ug/kg wet							
Trichlorofluoromethane	ND	25	ug/kg wet							
1,2,3-Trichloropropane	ND	50	ug/kg wet							
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet							
1,3,5-Trimethylbenzene	ND	25	ug/kg wet							
1,2,4-Trimethylbenzene	ND	25	ug/kg wet							
Vinyl chloride	ND	25	ug/kg wet							
m,p-Xylene	ND	50	ug/kg wet							
o-Xylene	ND	25	ug/kg wet							

<i>Surrogate: Dibromofluoromethane</i>	5.08		ug/L	5.000		102	84.7-120			
<i>Surrogate: Toluene-d8</i>	4.90		ug/L	5.000		98.0	90.5-108			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.72		ug/L	5.000		94.4	88.3-113			

LCS (A506092-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 04:04

Acetone	47.1		ug/L	50.00		94.3	42.3-174			
Benzene	5.27		ug/L	5.000		105	80.5-123			
Bromobenzene	5.26		ug/L	5.000		105	87.8-115			
Bromochloromethane	5.33		ug/L	5.000		107	85.9-123			
Bromodichloromethane	5.13		ug/L	5.000		103	79.1-115			
Bromoform	4.82		ug/L	5.000		96.4	58.2-137			
Bromomethane	7.33		ug/L	5.000		147	39.3-192			
2-Butanone	44.2		ug/L	50.00		88.3	51.2-152			
n-Butyl Benzene	5.63		ug/L	5.000		113	88.2-119			
sec-Butyl Benzene	5.50		ug/L	5.000		110	89.9-118			
tert-Butylbenzene	5.48		ug/L	5.000		110	88.8-117			
Carbon disulfide	6.22		ug/L	5.000		124	72.2-127			
Carbon tetrachloride	5.40		ug/L	5.000		108	72.8-125			
Chlorobenzene	5.36		ug/L	5.000		107	91.3-112			



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

LCS (A506092-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 04:04

Chloroethane	6.28		ug/L	5.000		126	14.6-199			
Chloroform	5.42		ug/L	5.000		108	77.9-125			
Chloromethane	7.78		ug/L	5.000		156	50.2-141			
2-Chlorotoluene	5.51		ug/L	5.000		110	88.5-117			
4-Chlorotoluene	5.58		ug/L	5.000		112	88.4-118			
1,2-Dibromo-3-chloropropane	5.08		ug/L	5.000		102	49-150			
Dibromochloromethane	4.98		ug/L	5.000		99.6	65.9-134			
1,2-Dibromoethane (EDB)	5.09		ug/L	5.000		102	82.8-118			
Dibromomethane	5.31		ug/L	5.000		106	76.2-128			
1,2-Dichlorobenzene	5.50		ug/L	5.000		110	89.9-115			
1,4-Dichlorobenzene	5.41		ug/L	5.000		108	90.6-113			
1,3-Dichlorobenzene	5.52		ug/L	5.000		110	90.5-115			
Dichlorodifluoromethane	10.7		ug/L	5.000		214	67.8-137			
1,1-Dichloroethane	5.46		ug/L	5.000		109	80.9-127			
1,2-Dichloroethane	5.17		ug/L	5.000		103	72.8-138			
trans-1,2-Dichloroethene	5.73		ug/L	5.000		115	71.3-128			
cis-1,2-Dichloroethene	5.50		ug/L	5.000		110	81.9-121			
1,1-Dichloroethene	5.89		ug/L	5.000		118	66.8-129			
2,2-Dichloropropane	4.99		ug/L	5.000		99.8	68-136			
1,2-Dichloropropane	5.28		ug/L	5.000		106	85.2-117			
1,3-Dichloropropane	5.11		ug/L	5.000		102	85.2-117			
cis-1,3-Dichloropropene	4.94		ug/L	5.000		98.8	83.5-113			
trans-1,3-Dichloropropene	4.84		ug/L	5.000		96.8	74.6-123			
1,1-Dichloropropene	5.70		ug/L	5.000		114	84.9-123			
Diisopropyl Ether	5.05		ug/L	5.000		101	83.9-122			
Ethylbenzene	5.34		ug/L	5.000		107	89.9-113			
Hexachlorobutadiene	5.72		ug/L	5.000		114	83.6-120			
n-Hexane	6.44		ug/L	5.000		129	71.7-132			
2-Hexanone	43.9		ug/L	50.00		87.8	41.9-162			
Isopropylbenzene	5.35		ug/L	5.000		107	92.8-112			
p-Isopropyltoluene	5.51		ug/L	5.000		110	89.8-118			
Methylene chloride	5.47		ug/L	5.000		109	47.7-169			
4-Methyl-2-pentanone	44.9		ug/L	50.00		89.8	47-159			
Methyl t-Butyl Ether	4.65		ug/L	5.000		93.0	75.2-129			
Naphthalene	4.71		ug/L	5.000		94.2	72.9-122			
n-Propyl Benzene	5.57		ug/L	5.000		111	87.3-119			
Styrene	5.27		ug/L	5.000		105	89.7-112			
1,1,1,2-Tetrachloroethane	5.21		ug/L	5.000		104	80.3-125			
1,1,2,2-Tetrachloroethane	4.87		ug/L	5.000		97.4	63.6-143			
Tetrachloroethene	5.66		ug/L	5.000		113	85.1-116			
Tetrahydrofuran	23.6		ug/L	25.00		94.4	65.7-136			
Toluene	5.40		ug/L	5.000		108	78.8-117			
1,2,3-Trichlorobenzene	5.17		ug/L	5.000		103	81.2-120			
1,2,4-Trichlorobenzene	5.29		ug/L	5.000		106	85.7-116			



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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

LCS (A506092-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 04:04

1,1,1-Trichloroethane	5.57		ug/L	5.000		111	82.3-123			
1,1,2-Trichloroethane	5.11		ug/L	5.000		102	74.9-130			
Trichloroethene	5.59		ug/L	5.000		112	83.1-118			
Trichlorofluoromethane	6.68		ug/L	5.000		134	40.3-174			
1,2,3-Trichloropropane	5.05		ug/L	5.000		101	70.9-127			
1,1,2-Trichlorotrifluoroethane	12.9		ug/L	5.000		257	76.1-132			
1,3,5-Trimethylbenzene	5.26		ug/L	5.000		105	85.2-120			
1,2,4-Trimethylbenzene	5.21		ug/L	5.000		104	86.8-118			
Vinyl chloride	6.74		ug/L	5.000		135	60.9-137			
m,p-Xylene	10.7		ug/L	10.00		107	90.1-114			
o-Xylene	5.31		ug/L	5.000		106	85.8-113			
<i>Surrogate: Dibromofluoromethane</i>	<i>5.03</i>		<i>ug/L</i>	<i>5.000</i>		<i>101</i>	<i>84.7-120</i>			
<i>Surrogate: Toluene-d8</i>	<i>4.93</i>		<i>ug/L</i>	<i>5.000</i>		<i>98.6</i>	<i>90.5-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>4.91</i>		<i>ug/L</i>	<i>5.000</i>		<i>98.2</i>	<i>88.3-113</i>			

Matrix Spike (A506092-MS1)

Source: A152604-21

Prepared: 06/23/2015 Analyzed: 06/24/2015 21:12

Acetone	49.8		ug/L	50.00	ND	99.6	37.5-179			
Benzene	6.31		ug/L	5.000	1.32	99.9	77-128			
Bromobenzene	5.26		ug/L	5.000	ND	105	88-115			
Bromochloromethane	4.94		ug/L	5.000	ND	98.8	85.3-126			
Bromodichloromethane	5.14		ug/L	5.000	ND	103	77.3-118			
Bromoform	4.85		ug/L	5.000	ND	97.0	60.6-142			
Bromomethane	5.88		ug/L	5.000	ND	118	30.8-224			
2-Butanone	47.8		ug/L	50.00	ND	95.7	54.7-159			
n-Butyl Benzene	5.67		ug/L	5.000	ND	113	87.5-118			
sec-Butyl Benzene	5.33		ug/L	5.000	ND	107	85.3-121			
tert-Butylbenzene	5.29		ug/L	5.000	ND	106	85.1-120			
Carbon disulfide	6.05		ug/L	5.000	ND	121	69.4-131			
Carbon tetrachloride	5.11		ug/L	5.000	ND	102	75.6-122			
Chlorobenzene	5.08		ug/L	5.000	ND	102	91-112			
Chloroethane	7.25		ug/L	5.000	ND	145	25.1-230			
Chloroform	4.93		ug/L	5.000	ND	98.6	76.4-128			
Chloromethane	7.07		ug/L	5.000	ND	141	45.1-147			
2-Chlorotoluene	5.41		ug/L	5.000	ND	108	84.5-122			
4-Chlorotoluene	5.31		ug/L	5.000	ND	106	88.3-117			
1,2-Dibromo-3-chloropropane	4.78		ug/L	5.000	ND	95.6	49.4-157			
Dibromochloromethane	4.87		ug/L	5.000	ND	97.4	68.3-136			
1,2-Dibromoethane (EDB)	4.90		ug/L	5.000	ND	98.0	81.3-123			
Dibromomethane	5.01		ug/L	5.000	ND	100	79.5-128			
1,2-Dichlorobenzene	5.29		ug/L	5.000	ND	106	93.7-111			
1,4-Dichlorobenzene	5.23		ug/L	5.000	ND	105	89.4-114			
1,3-Dichlorobenzene	5.37		ug/L	5.000	ND	107	90.9-113			
Dichlorodifluoromethane	10.1		ug/L	5.000	ND	202	69.4-138			
1,1-Dichloroethane	5.09		ug/L	5.000	ND	102	77.3-131			

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Project: AECOM KEP
 Project Number: [none]
 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

Matrix Spike (A506092-MS1)	Source: A152604-21	Prepared: 06/23/2015	Analyzed: 06/24/2015 21:12			
1,2-Dichloroethane	4.91	ug/L	5.000	ND	98.2	73.7-139
trans-1,2-Dichloroethene	6.08	ug/L	5.000	0.743	107	68.9-132
cis-1,2-Dichloroethene	34.6	ug/L	5.000	29.8	96.0	80-124
1,1-Dichloroethene	5.59	ug/L	5.000	0.201	108	60.7-145
2,2-Dichloropropane	4.69	ug/L	5.000	ND	93.8	65.7-135
1,2-Dichloropropane	5.04	ug/L	5.000	ND	101	85.8-116
1,3-Dichloropropane	4.85	ug/L	5.000	ND	97.0	84.6-120
cis-1,3-Dichloropropene	4.95	ug/L	5.000	ND	99.0	84.2-114
trans-1,3-Dichloropropene	4.92	ug/L	5.000	ND	98.4	73.6-129
1,1-Dichloropropene	5.10	ug/L	5.000	ND	102	85.2-124
Diisopropyl Ether	4.85	ug/L	5.000	ND	97.0	80.4-127
Ethylbenzene	5.23	ug/L	5.000	0.100	103	85.7-117
Hexachlorobutadiene	5.36	ug/L	5.000	ND	107	79-124
n-Hexane	6.21	ug/L	5.000	ND	124	76.3-124
2-Hexanone	45.0	ug/L	50.00	ND	89.9	49.1-164
Isopropylbenzene	5.27	ug/L	5.000	0.0703	104	90.3-116
p-Isopropyltoluene	5.43	ug/L	5.000	0.0703	107	82-126
Methylene chloride	5.36	ug/L	5.000	ND	107	54.5-146
4-Methyl-2-pentanone	47.2	ug/L	50.00	ND	94.3	52.1-162
Methyl t-Butyl Ether	4.44	ug/L	5.000	ND	88.8	68.6-137
Naphthalene	5.23	ug/L	5.000	0.251	99.6	66.1-137
n-Propyl Benzene	5.37	ug/L	5.000	ND	107	85.2-121
Styrene	5.09	ug/L	5.000	ND	102	89.1-114
1,1,1,2-Tetrachloroethane	5.12	ug/L	5.000	ND	102	81.5-124
1,1,2,2-Tetrachloroethane	4.92	ug/L	5.000	ND	98.4	64-150
Tetrachloroethene	5.45	ug/L	5.000	ND	109	80.7-123
Tetrahydrofuran	21.1	ug/L	25.00	ND	84.2	57.5-146
Toluene	5.42	ug/L	5.000	0.161	105	72.1-124
1,2,3-Trichlorobenzene	4.98	ug/L	5.000	ND	99.6	80.1-123
1,2,4-Trichlorobenzene	5.13	ug/L	5.000	ND	103	78.6-123
1,1,1-Trichloroethane	5.21	ug/L	5.000	ND	104	80.2-124
1,1,2-Trichloroethane	5.08	ug/L	5.000	ND	102	73.9-137
Trichloroethene	13.6	ug/L	5.000	8.10	109	81.5-119
Trichlorofluoromethane	6.40	ug/L	5.000	ND	128	17-192
1,2,3-Trichloropropane	5.01	ug/L	5.000	ND	100	74.3-127
1,1,2-Trichlorotrifluoroethane	11.9	ug/L	5.000	ND	239	81.9-128
1,3,5-Trimethylbenzene	5.11	ug/L	5.000	ND	102	82-122
1,2,4-Trimethylbenzene	5.39	ug/L	5.000	0.271	102	80.4-122
Vinyl chloride	7.13	ug/L	5.000	0.713	128	75.5-134
m,p-Xylene	11.4	ug/L	10.00	1.43	99.9	87.9-115
o-Xylene	6.39	ug/L	5.000	1.37	100	82.9-116
Surrogate: Dibromofluoromethane	4.85	ug/L	5.000		97.0	84.7-120
Surrogate: Toluene-d8	5.15	ug/L	5.000		103	90.5-108
Surrogate: 4-Bromofluorobenzene	5.08	ug/L	5.000		102	88.3-113

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Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

Matrix Spike Dup (A506092-MSD1)

Source: A152604-21

Prepared: 06/23/2015 Analyzed: 06/24/2015 22:39

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	41.8		ug/L	50.00	ND	83.5	37.5-179	17.5	20	
Benzene	5.50		ug/L	5.000	1.32	83.7	77-128	17.6	20	
Bromobenzene	4.83		ug/L	5.000	ND	96.6	88-115	8.52	20	
Bromochloromethane	4.47		ug/L	5.000	ND	89.4	85.3-126	9.99	20	
Bromodichloromethane	4.53		ug/L	5.000	ND	90.6	77.3-118	12.6	20	
Bromoform	4.59		ug/L	5.000	ND	91.8	60.6-142	5.51	20	
Bromomethane	5.16		ug/L	5.000	ND	103	30.8-224	13.0	20	
2-Butanone	42.4		ug/L	50.00	ND	84.8	54.7-159	12.0	20	
n-Butyl Benzene	5.22		ug/L	5.000	ND	104	87.5-118	8.26	20	
sec-Butyl Benzene	4.91		ug/L	5.000	ND	98.2	85.3-121	8.20	20	
tert-Butylbenzene	4.87		ug/L	5.000	ND	97.4	85.1-120	8.27	20	
Carbon disulfide	5.28		ug/L	5.000	ND	106	69.4-131	13.6	20	
Carbon tetrachloride	4.60		ug/L	5.000	ND	92.0	75.6-122	10.5	20	
Chlorobenzene	4.82		ug/L	5.000	ND	96.4	91-112	5.25	20	
Chloroethane	6.38		ug/L	5.000	ND	128	25.1-230	12.8	20	
Chloroform	4.35		ug/L	5.000	ND	87.0	76.4-128	12.5	20	
Chloromethane	6.46		ug/L	5.000	ND	129	45.1-147	9.02	20	
2-Chlorotoluene	4.98		ug/L	5.000	ND	99.6	84.5-122	8.28	20	
4-Chlorotoluene	4.97		ug/L	5.000	ND	99.4	88.3-117	6.61	20	
1,2-Dibromo-3-chloropropane	4.73		ug/L	5.000	ND	94.6	49.4-157	1.05	20	
Dibromochloromethane	4.60		ug/L	5.000	ND	92.0	68.3-136	5.70	20	
1,2-Dibromoethane (EDB)	4.65		ug/L	5.000	ND	93.0	81.3-123	5.24	20	
Dibromomethane	4.56		ug/L	5.000	ND	91.2	79.5-128	9.40	20	
1,2-Dichlorobenzene	4.96		ug/L	5.000	ND	99.2	93.7-111	6.44	20	
1,4-Dichlorobenzene	4.98		ug/L	5.000	ND	99.6	89.4-114	4.90	20	
1,3-Dichlorobenzene	5.01		ug/L	5.000	ND	100	90.9-113	6.94	20	
Dichlorodifluoromethane	8.58		ug/L	5.000	ND	172	69.4-138	16.1	20	M
1,1-Dichloroethane	4.48		ug/L	5.000	ND	89.6	77.3-131	12.7	20	
1,2-Dichloroethane	4.31		ug/L	5.000	ND	86.2	73.7-139	13.0	20	
trans-1,2-Dichloroethene	5.29		ug/L	5.000	0.743	90.9	68.9-132	16.0	20	
cis-1,2-Dichloroethene	30.6		ug/L	5.000	29.8	15.2	80-124	145	20	M, X
1,1-Dichloroethene	5.02		ug/L	5.000	0.201	96.4	60.7-145	11.2	20	
2,2-Dichloropropane	4.15		ug/L	5.000	ND	83.0	65.7-135	12.2	20	
1,2-Dichloropropane	4.51		ug/L	5.000	ND	90.2	85.8-116	11.1	20	
1,3-Dichloropropane	4.64		ug/L	5.000	ND	92.8	84.6-120	4.43	20	
cis-1,3-Dichloropropene	4.49		ug/L	5.000	ND	89.8	84.2-114	9.75	20	
trans-1,3-Dichloropropene	4.69		ug/L	5.000	ND	93.8	73.6-129	4.79	20	
1,1-Dichloropropene	4.63		ug/L	5.000	ND	92.6	85.2-124	9.66	20	
Diisopropyl Ether	4.25		ug/L	5.000	ND	85.0	80.4-127	13.2	20	
Ethylbenzene	4.82		ug/L	5.000	0.100	94.4	85.7-117	8.33	20	
Hexachlorobutadiene	4.98		ug/L	5.000	ND	99.6	79-124	7.35	20	
n-Hexane	5.48		ug/L	5.000	ND	110	76.3-124	12.5	20	
2-Hexanone	44.9		ug/L	50.00	ND	89.8	49.1-164	0.156	20	
Isopropylbenzene	4.86		ug/L	5.000	0.0703	95.8	90.3-116	8.21	20	



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Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506092 - EPA 5030B

Matrix Spike Dup (A506092-MSD1)	Source: A152604-21			Prepared: 06/23/2015 Analyzed: 06/24/2015 22:39						
p-Isopropyltoluene	5.00		ug/L	5.000	0.0703	98.6	82-126	8.36	20	
Methylene chloride	4.68		ug/L	5.000	ND	93.6	54.5-146	13.5	20	
4-Methyl-2-pentanone	41.9		ug/L	50.00	ND	83.8	52.1-162	11.8	20	
Methyl t-Butyl Ether	3.95		ug/L	5.000	ND	79.0	68.6-137	11.7	20	
Naphthalene	4.91		ug/L	5.000	0.251	93.2	66.1-137	6.64	20	
n-Propyl Benzene	4.95		ug/L	5.000	ND	99.0	85.2-121	8.14	20	
Styrene	4.84		ug/L	5.000	ND	96.8	89.1-114	5.04	20	
1,1,1,2-Tetrachloroethane	4.74		ug/L	5.000	ND	94.8	81.5-124	7.71	20	
1,1,2,2-Tetrachloroethane	4.69		ug/L	5.000	ND	93.8	64-150	4.79	20	
Tetrachloroethene	5.25		ug/L	5.000	ND	105	80.7-123	3.74	20	
Tetrahydrofuran	20.6		ug/L	25.00	ND	82.4	57.5-146	2.21	20	
Toluene	4.87		ug/L	5.000	0.161	94.2	72.1-124	11.0	20	
1,2,3-Trichlorobenzene	4.86		ug/L	5.000	ND	97.2	80.1-123	2.44	20	
1,2,4-Trichlorobenzene	4.93		ug/L	5.000	ND	98.6	78.6-123	3.98	20	
1,1,1-Trichloroethane	4.54		ug/L	5.000	ND	90.8	80.2-124	13.7	20	
1,1,2-Trichloroethane	4.47		ug/L	5.000	ND	89.4	73.9-137	12.8	20	
Trichloroethene	11.7		ug/L	5.000	8.10	71.8	81.5-119	41.2	20	X, M
Trichlorofluoromethane	5.49		ug/L	5.000	ND	110	17-192	15.3	20	
1,2,3-Trichloropropane	4.72		ug/L	5.000	ND	94.4	74.3-127	5.96	20	
1,1,2-Trichlorotrifluoroethane	10.5		ug/L	5.000	ND	210	81.9-128	12.9	20	M
1,3,5-Trimethylbenzene	4.73		ug/L	5.000	ND	94.6	82-122	7.72	20	
1,2,4-Trimethylbenzene	4.97		ug/L	5.000	0.271	94.0	80.4-122	8.56	20	
Vinyl chloride	6.05		ug/L	5.000	0.713	107	75.5-134	18.4	20	
m,p-Xylene	10.7		ug/L	10.00	1.43	92.6	87.9-115	7.58	20	
o-Xylene	6.03		ug/L	5.000	1.37	93.3	82.9-116	7.43	20	
<i>Surrogate: Dibromofluoromethane</i>	<i>4.53</i>		<i>ug/L</i>	<i>5.000</i>		<i>90.6</i>	<i>84.7-120</i>			
<i>Surrogate: Toluene-d8</i>	<i>4.96</i>		<i>ug/L</i>	<i>5.000</i>		<i>99.2</i>	<i>90.5-108</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>4.99</i>		<i>ug/L</i>	<i>5.000</i>		<i>99.8</i>	<i>88.3-113</i>			



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 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

Blank (A506093-BLK1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 04:26

Acetone	ND	1000	ug/kg wet							
Benzene	ND	25	ug/kg wet							
Bromobenzene	ND	25	ug/kg wet							
Bromochloromethane	ND	25	ug/kg wet							
Bromodichloromethane	ND	25	ug/kg wet							
Bromoform	ND	25	ug/kg wet							
Bromomethane	ND	250	ug/kg wet							
2-Butanone	ND	1000	ug/kg wet							
n-Butyl Benzene	ND	25	ug/kg wet							
sec-Butyl Benzene	ND	25	ug/kg wet							
tert-Butylbenzene	ND	25	ug/kg wet							
Carbon disulfide	ND	25	ug/kg wet							
Carbon tetrachloride	ND	25	ug/kg wet							
Chlorobenzene	ND	25	ug/kg wet							
Chloroethane	ND	250	ug/kg wet							
Chloroform	ND	25	ug/kg wet							
Chloromethane	ND	50	ug/kg wet							
2-Chlorotoluene	ND	25	ug/kg wet							
4-Chlorotoluene	ND	25	ug/kg wet							
1,2-Dibromo-3-chloropropane	ND	25	ug/kg wet							
Dibromochloromethane	ND	25	ug/kg wet							
1,2-Dibromoethane (EDB)	ND	25	ug/kg wet							
Dibromomethane	ND	25	ug/kg wet							
1,2-Dichlorobenzene	ND	25	ug/kg wet							
1,4-Dichlorobenzene	ND	25	ug/kg wet							
1,3-Dichlorobenzene	ND	25	ug/kg wet							
Dichlorodifluoromethane	ND	25	ug/kg wet							
1,1-Dichloroethane	ND	25	ug/kg wet							
1,2-Dichloroethane	ND	25	ug/kg wet							
trans-1,2-Dichloroethene	ND	25	ug/kg wet							
cis-1,2-Dichloroethene	ND	25	ug/kg wet							
1,1-Dichloroethene	ND	25	ug/kg wet							
2,2-Dichloropropane	ND	25	ug/kg wet							
1,2-Dichloropropane	ND	25	ug/kg wet							
1,3-Dichloropropane	ND	25	ug/kg wet							
cis-1,3-Dichloropropene	ND	25	ug/kg wet							
trans-1,3-Dichloropropene	ND	25	ug/kg wet							
1,1-Dichloropropene	ND	25	ug/kg wet							
Diisopropyl Ether	ND	25	ug/kg wet							
Ethylbenzene	ND	25	ug/kg wet							
Hexachlorobutadiene	ND	100	ug/kg wet							
n-Hexane	ND	25	ug/kg wet							
2-Hexanone	ND	1000	ug/kg wet							
Isopropylbenzene	ND	25	ug/kg wet							



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Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

Blank (A506093-BLK1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 04:26

p-Isopropyltoluene	ND	25	ug/kg wet							
Methylene chloride	ND	100	ug/kg wet							
4-Methyl-2-pentanone	ND	1000	ug/kg wet							
Methyl t-Butyl Ether	ND	25	ug/kg wet							
Naphthalene	ND	250	ug/kg wet							
n-Propyl Benzene	ND	25	ug/kg wet							
Styrene	ND	25	ug/kg wet							
1,1,1,2-Tetrachloroethane	ND	25	ug/kg wet							
1,1,2,2-Tetrachloroethane	ND	25	ug/kg wet							
Tetrachloroethene	ND	25	ug/kg wet							
Tetrahydrofuran	ND	500	ug/kg wet							
Toluene	ND	25	ug/kg wet							
1,2,3-Trichlorobenzene	ND	100	ug/kg wet							
1,2,4-Trichlorobenzene	ND	100	ug/kg wet							
1,1,1-Trichloroethane	ND	25	ug/kg wet							
1,1,2-Trichloroethane	ND	25	ug/kg wet							
Trichloroethene	ND	25	ug/kg wet							
Trichlorofluoromethane	ND	25	ug/kg wet							
1,2,3-Trichloropropane	ND	50	ug/kg wet							
1,1,2-Trichlorotrifluoroethane	ND	25	ug/kg wet							
1,3,5-Trimethylbenzene	ND	25	ug/kg wet							
1,2,4-Trimethylbenzene	ND	25	ug/kg wet							
Vinyl chloride	ND	25	ug/kg wet							
m,p-Xylene	ND	50	ug/kg wet							
o-Xylene	ND	25	ug/kg wet							
<i>Surrogate: Dibromofluoromethane</i>	5.18		ug/L	5.000		104	84.7-120			
<i>Surrogate: Toluene-d8</i>	4.87		ug/L	5.000		97.4	90.5-108			
<i>Surrogate: 4-Bromofluorobenzene</i>	4.74		ug/L	5.000		94.8	88.3-113			

LCS (A506093-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 23:45

Acetone	39.9		ug/L	50.00		79.8	42.3-174			
Benzene	4.34		ug/L	5.000		86.8	80.5-123			
Bromobenzene	5.30		ug/L	5.000		106	87.8-115			
Bromochloromethane	4.69		ug/L	5.000		93.8	85.9-123			
Bromodichloromethane	4.51		ug/L	5.000		90.2	79.1-115			
Bromoform	3.64		ug/L	5.000		72.8	58.2-137			
Bromomethane	11.0		ug/L	5.000		220	39.3-192			
2-Butanone	40.6		ug/L	50.00		81.3	51.2-152			
n-Butyl Benzene	4.40		ug/L	5.000		88.0	88.2-119			
sec-Butyl Benzene	4.72		ug/L	5.000		94.4	89.9-118			
tert-Butylbenzene	4.86		ug/L	5.000		97.2	88.8-117			
Carbon disulfide	5.41		ug/L	5.000		108	72.2-127			
Carbon tetrachloride	3.14		ug/L	5.000		62.8	72.8-125			
Chlorobenzene	4.96		ug/L	5.000		99.2	91.3-112			



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Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

LCS (A506093-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 23:45

Chloroethane	6.73		ug/L	5.000		135	14.6-199			
Chloroform	4.74		ug/L	5.000		94.8	77.9-125			
Chloromethane	5.82		ug/L	5.000		116	50.2-141			
2-Chlorotoluene	5.22		ug/L	5.000		104	88.5-117			
4-Chlorotoluene	5.19		ug/L	5.000		104	88.4-118			
1,2-Dibromo-3-chloropropane	4.22		ug/L	5.000		84.4	49-150			
Dibromochloromethane	3.50		ug/L	5.000		70.0	65.9-134			
1,2-Dibromoethane (EDB)	3.58		ug/L	5.000		71.6	82.8-118			
Dibromomethane	5.00		ug/L	5.000		100	76.2-128			
1,2-Dichlorobenzene	5.11		ug/L	5.000		102	89.9-115			
1,4-Dichlorobenzene	5.13		ug/L	5.000		103	90.6-113			
1,3-Dichlorobenzene	5.25		ug/L	5.000		105	90.5-115			
Dichlorodifluoromethane	7.96		ug/L	5.000		159	67.8-137			
1,1-Dichloroethane	5.02		ug/L	5.000		100	80.9-127			
1,2-Dichloroethane	4.07		ug/L	5.000		81.4	72.8-138			
trans-1,2-Dichloroethene	4.85		ug/L	5.000		97.0	71.3-128			
cis-1,2-Dichloroethene	4.71		ug/L	5.000		94.2	81.9-121			
1,1-Dichloroethene	5.43		ug/L	5.000		109	66.8-129			
2,2-Dichloropropane	4.16		ug/L	5.000		83.2	68-136			
1,2-Dichloropropane	4.50		ug/L	5.000		90.0	85.2-117			
1,3-Dichloropropane	3.40		ug/L	5.000		68.0	85.2-117			
cis-1,3-Dichloropropene	3.95		ug/L	5.000		79.0	83.5-113			
trans-1,3-Dichloropropene	3.23		ug/L	5.000		64.6	74.6-123			
1,1-Dichloropropene	4.11		ug/L	5.000		82.2	84.9-123			
Diisopropyl Ether	3.34		ug/L	5.000		66.8	83.9-122			
Ethylbenzene	5.00		ug/L	5.000		100	89.9-113			
Hexachlorobutadiene	4.95		ug/L	5.000		99.0	83.6-120			
n-Hexane	3.79		ug/L	5.000		75.8	71.7-132			
2-Hexanone	42.3		ug/L	50.00		84.6	41.9-162			
Isopropylbenzene	4.90		ug/L	5.000		98.0	92.8-112			
p-Isopropyltoluene	4.53		ug/L	5.000		90.6	89.8-118			
Methylene chloride	5.02		ug/L	5.000		100	47.7-169			
4-Methyl-2-pentanone	52.6		ug/L	50.00		105	47-159			
Methyl t-Butyl Ether	2.78		ug/L	5.000		55.6	75.2-129			
Naphthalene	4.59		ug/L	5.000		91.8	72.9-122			
n-Propyl Benzene	5.10		ug/L	5.000		102	87.3-119			
Styrene	4.85		ug/L	5.000		97.0	89.7-112			
1,1,1,2-Tetrachloroethane	3.47		ug/L	5.000		69.4	80.3-125			
1,1,2,2-Tetrachloroethane	4.98		ug/L	5.000		99.6	63.6-143			
Tetrachloroethene	4.56		ug/L	5.000		91.2	85.1-116			
Tetrahydrofuran	19.2		ug/L	25.00		76.6	65.7-136			
Toluene	5.83		ug/L	5.000		117	78.8-117			
1,2,3-Trichlorobenzene	5.02		ug/L	5.000		100	81.2-120			
1,2,4-Trichlorobenzene	4.84		ug/L	5.000		96.8	85.7-116			



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Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

LCS (A506093-BS1)

Prepared: 06/23/2015 Analyzed: 06/24/2015 23:45

1,1,1-Trichloroethane	4.26		ug/L	5.000		85.2	82.3-123			
1,1,2-Trichloroethane	4.41		ug/L	5.000		88.2	74.9-130			
Trichloroethene	4.81		ug/L	5.000		96.2	83.1-118			
Trichlorofluoromethane	5.95		ug/L	5.000		119	40.3-174			
1,2,3-Trichloropropane	4.88		ug/L	5.000		97.6	70.9-127			
1,1,2-Trichlorotrifluoroethane	9.18		ug/L	5.000		184	76.1-132			
1,3,5-Trimethylbenzene	4.54		ug/L	5.000		90.8	85.2-120			
1,2,4-Trimethylbenzene	4.35		ug/L	5.000		87.0	86.8-118			
Vinyl chloride	6.53		ug/L	5.000		131	60.9-137			
m,p-Xylene	9.48		ug/L	10.00		94.8	90.1-114			
o-Xylene	4.75		ug/L	5.000		95.0	85.8-113			
<i>Surrogate: Dibromofluoromethane</i>	<i>4.79</i>		<i>ug/L</i>	<i>5.000</i>		<i>95.8</i>	<i>84.7-120</i>			
<i>Surrogate: Toluene-d8</i>	<i>5.87</i>		<i>ug/L</i>	<i>5.000</i>		<i>117</i>	<i>90.5-108</i>			<i>S</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>4.79</i>		<i>ug/L</i>	<i>5.000</i>		<i>95.8</i>	<i>88.3-113</i>			

Matrix Spike (A506093-MS1)

Source: A152604-22

Prepared: 06/23/2015 Analyzed: 06/24/2015 21:34

Acetone	59.0		ug/L	50.00	ND	118	37.5-179			
Benzene	6.43		ug/L	5.000	1.95	89.6	77-128			
Bromobenzene	5.20		ug/L	5.000	ND	104	88-115			
Bromochloromethane	4.76		ug/L	5.000	ND	95.2	85.3-126			
Bromodichloromethane	4.51		ug/L	5.000	ND	90.2	77.3-118			
Bromoform	3.81		ug/L	5.000	ND	76.2	60.6-142			
Bromomethane	14.2		ug/L	5.000	ND	284	30.8-224			<i>M</i>
2-Butanone	45.0		ug/L	50.00	ND	89.9	54.7-159			
n-Butyl Benzene	4.92		ug/L	5.000	ND	98.4	87.5-118			
sec-Butyl Benzene	4.96		ug/L	5.000	ND	99.2	85.3-121			
tert-Butylbenzene	5.05		ug/L	5.000	ND	101	85.1-120			
Carbon disulfide	5.88		ug/L	5.000	ND	118	69.4-131			
Carbon tetrachloride	2.49		ug/L	5.000	ND	49.8	75.6-122			<i>M</i>
Chlorobenzene	5.09		ug/L	5.000	ND	102	91-112			
Chloroethane	8.21		ug/L	5.000	ND	164	25.1-230			
Chloroform	5.02		ug/L	5.000	ND	100	76.4-128			
Chloromethane	6.77		ug/L	5.000	ND	135	45.1-147			
2-Chlorotoluene	5.24		ug/L	5.000	ND	105	84.5-122			
4-Chlorotoluene	5.25		ug/L	5.000	ND	105	88.3-117			
1,2-Dibromo-3-chloropropane	4.62		ug/L	5.000	ND	92.4	49.4-157			
Dibromochloromethane	3.72		ug/L	5.000	ND	74.4	68.3-136			
1,2-Dibromoethane (EDB)	4.04		ug/L	5.000	ND	80.8	81.3-123			<i>M</i>
Dibromomethane	5.04		ug/L	5.000	ND	101	79.5-128			
1,2-Dichlorobenzene	5.31		ug/L	5.000	ND	106	93.7-111			
1,4-Dichlorobenzene	5.21		ug/L	5.000	ND	104	89.4-114			
1,3-Dichlorobenzene	5.24		ug/L	5.000	ND	105	90.9-113			
Dichlorodifluoromethane	10.8		ug/L	5.000	ND	215	69.4-138			<i>M</i>
1,1-Dichloroethane	5.27		ug/L	5.000	ND	105	77.3-131			



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 Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

Matrix Spike (A506093-MS1)	Source: A152604-22	Prepared: 06/23/2015	Analyzed: 06/24/2015 21:34				
1,2-Dichloroethane	4.29	ug/L	5.000	ND	85.8	73.7-139	
trans-1,2-Dichloroethene	5.13	ug/L	5.000	0.113	100	68.9-132	
cis-1,2-Dichloroethene	7.10	ug/L	5.000	2.44	93.2	80-124	
1,1-Dichloroethene	5.89	ug/L	5.000	ND	118	60.7-145	
2,2-Dichloropropane	4.65	ug/L	5.000	ND	93.0	65.7-135	
1,2-Dichloropropane	4.43	ug/L	5.000	ND	88.6	85.8-116	
1,3-Dichloropropane	3.80	ug/L	5.000	ND	76.0	84.6-120	M
cis-1,3-Dichloropropene	4.05	ug/L	5.000	ND	81.0	84.2-114	M
trans-1,3-Dichloropropene	3.60	ug/L	5.000	ND	72.0	73.6-129	M
1,1-Dichloropropene	4.47	ug/L	5.000	ND	89.4	85.2-124	
Diisopropyl Ether	3.58	ug/L	5.000	ND	71.6	80.4-127	M
Ethylbenzene	5.31	ug/L	5.000	0.179	103	85.7-117	
Hexachlorobutadiene	5.06	ug/L	5.000	ND	101	79-124	
n-Hexane	4.49	ug/L	5.000	ND	89.8	76.3-124	
2-Hexanone	47.2	ug/L	50.00	ND	94.4	49.1-164	
Isopropylbenzene	5.34	ug/L	5.000	ND	107	90.3-116	
p-Isopropyltoluene	4.87	ug/L	5.000	ND	97.4	82-126	
Methylene chloride	5.21	ug/L	5.000	ND	104	54.5-146	
4-Methyl-2-pentanone	50.8	ug/L	50.00	ND	102	52.1-162	
Methyl t-Butyl Ether	3.02	ug/L	5.000	ND	60.4	68.6-137	M
Naphthalene	5.11	ug/L	5.000	0.104	100	66.1-137	
n-Propyl Benzene	5.28	ug/L	5.000	ND	106	85.2-121	
Styrene	5.25	ug/L	5.000	ND	105	89.1-114	
1,1,1,2-Tetrachloroethane	3.44	ug/L	5.000	ND	68.8	81.5-124	M
1,1,2,2-Tetrachloroethane	4.83	ug/L	5.000	ND	96.6	64-150	
Tetrachloroethene	5.15	ug/L	5.000	ND	103	80.7-123	
Tetrahydrofuran	19.6	ug/L	25.00	ND	78.2	57.5-146	
Toluene	6.07	ug/L	5.000	0.480	112	72.1-124	
1,2,3-Trichlorobenzene	5.09	ug/L	5.000	ND	102	80.1-123	
1,2,4-Trichlorobenzene	4.88	ug/L	5.000	ND	97.6	78.6-123	
1,1,1-Trichloroethane	4.79	ug/L	5.000	ND	95.8	80.2-124	
1,1,2-Trichloroethane	4.43	ug/L	5.000	ND	88.6	73.9-137	
Trichloroethene	10.4	ug/L	5.000	5.51	97.2	81.5-119	
Trichlorofluoromethane	6.40	ug/L	5.000	ND	128	17-192	
1,2,3-Trichloropropane	4.60	ug/L	5.000	ND	92.0	74.3-127	
1,1,2-Trichlorotrifluoroethane	10.3	ug/L	5.000	ND	205	81.9-128	M
1,3,5-Trimethylbenzene	4.94	ug/L	5.000	0.0659	97.5	82-122	
1,2,4-Trimethylbenzene	4.83	ug/L	5.000	0.217	92.3	80.4-122	
Vinyl chloride	7.59	ug/L	5.000	ND	152	75.5-134	M
m,p-Xylene	12.0	ug/L	10.00	1.68	104	87.9-115	
o-Xylene	6.63	ug/L	5.000	1.46	103	82.9-116	
Surrogate: Dibromofluoromethane	4.80	ug/L	5.000		96.0	84.7-120	
Surrogate: Toluene-d8	5.46	ug/L	5.000		109	90.5-108	S
Surrogate: 4-Bromofluorobenzene	5.05	ug/L	5.000		101	88.3-113	



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Project Manager: Larry Kinsman

Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

Matrix Spike Dup (A506093-MSD1)

Source: A152604-22

Prepared: 06/23/2015 Analyzed: 06/24/2015 23:01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Acetone	51.5		ug/L	50.00	ND	103	37.5-179	13.6	20	
Benzene	6.87		ug/L	5.000	1.95	98.4	77-128	9.36	20	
Bromobenzene	5.22		ug/L	5.000	ND	104	88-115	0.384	20	
Bromochloromethane	4.78		ug/L	5.000	ND	95.6	85.3-126	0.419	20	
Bromodichloromethane	4.58		ug/L	5.000	ND	91.6	77.3-118	1.54	20	
Bromoform	4.07		ug/L	5.000	ND	81.4	60.6-142	6.60	20	
Bromomethane	15.5		ug/L	5.000	ND	309	30.8-224	8.36	20	M
2-Butanone	44.5		ug/L	50.00	ND	89.0	54.7-159	1.01	20	
n-Butyl Benzene	4.93		ug/L	5.000	ND	98.6	87.5-118	0.203	20	
sec-Butyl Benzene	5.02		ug/L	5.000	ND	100	85.3-121	1.20	20	
tert-Butylbenzene	5.05		ug/L	5.000	ND	101	85.1-120	0.00	20	
Carbon disulfide	5.94		ug/L	5.000	ND	119	69.4-131	1.02	20	
Carbon tetrachloride	3.72		ug/L	5.000	ND	74.4	75.6-122	39.6	20	M, X
Chlorobenzene	5.15		ug/L	5.000	ND	103	91-112	1.17	20	
Chloroethane	8.04		ug/L	5.000	ND	161	25.1-230	2.09	20	
Chloroform	5.12		ug/L	5.000	ND	102	76.4-128	1.97	20	
Chloromethane	6.97		ug/L	5.000	ND	139	45.1-147	2.91	20	
2-Chlorotoluene	5.25		ug/L	5.000	ND	105	84.5-122	0.191	20	
4-Chlorotoluene	5.30		ug/L	5.000	ND	106	88.3-117	0.948	20	
1,2-Dibromo-3-chloropropane	4.47		ug/L	5.000	ND	89.4	49.4-157	3.30	20	
Dibromochloromethane	4.09		ug/L	5.000	ND	81.8	68.3-136	9.48	20	
1,2-Dibromoethane (EDB)	4.07		ug/L	5.000	ND	81.4	81.3-123	0.740	20	
Dibromomethane	4.97		ug/L	5.000	ND	99.4	79.5-128	1.40	20	
1,2-Dichlorobenzene	5.22		ug/L	5.000	ND	104	93.7-111	1.71	20	
1,4-Dichlorobenzene	5.22		ug/L	5.000	ND	104	89.4-114	0.192	20	
1,3-Dichlorobenzene	5.27		ug/L	5.000	ND	105	90.9-113	0.571	20	
Dichlorodifluoromethane	10.9		ug/L	5.000	ND	218	69.4-138	1.11	20	M
1,1-Dichloroethane	5.41		ug/L	5.000	ND	108	77.3-131	2.62	20	
1,2-Dichloroethane	4.46		ug/L	5.000	ND	89.2	73.7-139	3.89	20	
trans-1,2-Dichloroethene	5.34		ug/L	5.000	0.113	105	68.9-132	4.10	20	
cis-1,2-Dichloroethene	7.53		ug/L	5.000	2.44	102	80-124	8.82	20	
1,1-Dichloroethene	5.88		ug/L	5.000	ND	118	60.7-145	0.170	20	
2,2-Dichloropropane	4.91		ug/L	5.000	ND	98.2	65.7-135	5.44	20	
1,2-Dichloropropane	4.52		ug/L	5.000	ND	90.4	85.8-116	2.01	20	
1,3-Dichloropropane	4.01		ug/L	5.000	ND	80.2	84.6-120	5.38	20	M
cis-1,3-Dichloropropene	4.13		ug/L	5.000	ND	82.6	84.2-114	1.96	20	M
trans-1,3-Dichloropropene	3.86		ug/L	5.000	ND	77.2	73.6-129	6.97	20	
1,1-Dichloropropene	4.67		ug/L	5.000	ND	93.4	85.2-124	4.38	20	
Diisopropyl Ether	3.78		ug/L	5.000	ND	75.6	80.4-127	5.43	20	M
Ethylbenzene	5.32		ug/L	5.000	0.179	103	85.7-117	0.195	20	
Hexachlorobutadiene	5.29		ug/L	5.000	ND	106	79-124	4.44	20	
n-Hexane	4.94		ug/L	5.000	ND	98.8	76.3-124	9.54	20	
2-Hexanone	44.6		ug/L	50.00	ND	89.1	49.1-164	5.76	20	
Isopropylbenzene	5.36		ug/L	5.000	ND	107	90.3-116	0.374	20	



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Volatile Organic Compounds by Method 8260 - Purge and Trap - Quality Control
ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch A506093 - EPA 5030B

Matrix Spike Dup (A506093-MSD1)

Source: A152604-22

Prepared: 06/23/2015 Analyzed: 06/24/2015 23:01

p-Isopropyltoluene	4.96		ug/L	5.000	ND	99.2	82-126	1.83	20	
Methylene chloride	5.33		ug/L	5.000	ND	107	54.5-146	2.28	20	
4-Methyl-2-pentanone	47.1		ug/L	50.00	ND	94.2	52.1-162	7.54	20	
Methyl t-Butyl Ether	3.38		ug/L	5.000	ND	67.6	68.6-137	11.3	20	M
Naphthalene	5.10		ug/L	5.000	0.104	99.9	66.1-137	0.200	20	
n-Propyl Benzene	5.32		ug/L	5.000	ND	106	85.2-121	0.755	20	
Styrene	5.23		ug/L	5.000	ND	105	89.1-114	0.382	20	
1,1,1,2-Tetrachloroethane	3.75		ug/L	5.000	ND	75.0	81.5-124	8.62	20	M
1,1,2,2-Tetrachloroethane	4.78		ug/L	5.000	ND	95.6	64-150	1.04	20	
Tetrachloroethene	5.15		ug/L	5.000	ND	103	80.7-123	0.00	20	
Tetrahydrofuran	20.5		ug/L	25.00	ND	82.0	57.5-146	4.69	20	
Toluene	5.86		ug/L	5.000	0.480	108	72.1-124	3.83	20	
1,2,3-Trichlorobenzene	5.19		ug/L	5.000	ND	104	80.1-123	1.95	20	
1,2,4-Trichlorobenzene	4.99		ug/L	5.000	ND	99.8	78.6-123	2.23	20	
1,1,1-Trichloroethane	5.04		ug/L	5.000	ND	101	80.2-124	5.09	20	
1,1,2-Trichloroethane	4.44		ug/L	5.000	ND	88.8	73.9-137	0.225	20	
Trichloroethene	10.6		ug/L	5.000	5.51	102	81.5-119	4.43	20	
Trichlorofluoromethane	6.58		ug/L	5.000	ND	132	17-192	2.77	20	
1,2,3-Trichloropropane	4.69		ug/L	5.000	ND	93.8	74.3-127	1.94	20	
1,1,2-Trichlorotrifluoroethane	11.2		ug/L	5.000	ND	224	81.9-128	8.77	20	M
1,3,5-Trimethylbenzene	4.89		ug/L	5.000	0.0659	96.5	82-122	1.03	20	
1,2,4-Trimethylbenzene	4.85		ug/L	5.000	0.217	92.7	80.4-122	0.433	20	
Vinyl chloride	7.58		ug/L	5.000	ND	152	75.5-134	0.132	20	M
m,p-Xylene	12.0		ug/L	10.00	1.68	104	87.9-115	0.00	20	
o-Xylene	6.64		ug/L	5.000	1.46	104	82.9-116	0.193	20	
Surrogate: Dibromofluoromethane	4.97		ug/L	5.000		99.4	84.7-120			
Surrogate: Toluene-d8	5.33		ug/L	5.000		107	90.5-108			
Surrogate: 4-Bromofluorobenzene	5.07		ug/L	5.000		101	88.3-113			



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608.221.4889 Fax

Orin Remediation Technologies
405 Investment Ct
Verona WI, 53593

Project: AECOM KEP
Project Number: [none]
Project Manager: Larry Kinsman

Notes and Definitions

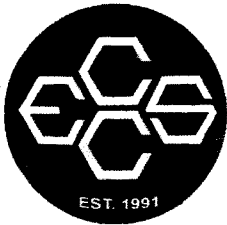
- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- S Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- LC Results may be biased low because of low continuing calibration verification (CCV).
- HC Results may be biased high because of high continuing calibration verification (CCV).
- E1 Estimated value because of quality control sample exceedances.
- E The concentration indicated is above the instrument calibration range. This value is an estimated concentration.
- D Data reported from a dilution
- B Analyte is also detected in the associated method blank.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference



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CHAIN OF CUSTODY

Project Number:				Analyses Requested				Mail Report To: <u>Larry Kinsman</u>																																															
Project Name: <u>AECOM KEP</u>				Preservation Codes				Company: <u>ORIN</u>																																															
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CHAIN OF CUSTODY

Project Number:				Analyses Requested				Mail Report To: <u>Larry Kinsman</u>									
Project Name: <u>AECOM KEP</u>				Preservation Codes				Company: <u>ORIN</u>									
Project Location: <u>Kenosha</u>				F				Address: <u>Verona, WI</u>									
Turn Around (circle one): <u>Normal</u> Rush								E-mail Address: <u>LKinsman@orinrt.com</u>									
If Rush, Report Due Date:				8260				Invoice To: <u>same</u>									
Sampled By (Print): <u>Keith Becker</u>								Company:									
								Address:									
Sample Description		Collection Date Time		Matrix	Total # of Containers					Comments	Lab ID	Lab Receipt Time					
TX-3-1		6/19 1515				S	Y	X					10				
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TX-3-5						S	I	X					14				
TX-3-6						S	I	X					15				
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Project Name: <u>AECOM KEP</u>				Preservation Codes				Company: <u>ORIN</u>					
Project Location:				F				Address:					
Turn Around (circle one): Normal Rush								E-mail Address: <u>LKinsman@orinrt.com</u>					
If Rush, Report Due Date:				8260				Invoice To: <u>same</u>					
Sampled By (Print):								Company:					
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID	Lab Receipt Time
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<u>TX-5-1</u>		<u>6/19</u>	<u>15:20</u>	<u>S</u>	<u>1</u>	<u>X</u>					<u>19</u>		
<u>TX-5-2</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>20</u>		
<u>TX-5-3</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>21</u>		
<u>TX-5-4</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>22</u>		
<u>TX-5-5</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>23</u>		
<u>TX-5-6</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>24</u>		
<u>TX-5-7</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>25</u>		
<u>TX-5-8</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>26</u>		
<u>TX-5-9</u>				<u>S</u>	<u>1</u>	<u>X</u>					<u>27</u>		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Relinquished By: <u>[Signature]</u>		Date: <u>6/19</u>		Time: <u>16:07</u>		Received By: <u>[Signature]</u>		Date: <u>06/19/15</u>	Time: <u>1800</u>
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Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: Present <input checked="" type="checkbox"/> Absent		Intact/Not Intact		Seal #s		Receipt Temp: <u>on ice</u>		Temp Blank Y N	
Shipped Via: <u>Drop off</u>													

ATTACHMENT D

SITE LOGIC Report

In Situ Microcosm Study

Contact: Lanette Altenbach
Address: AECOM
1555 N. Rivercenter Dr., Ste. 214
Milwaukee, WI 53212

Phone: (414) 944-6186

Email: Lanette.Altенbach@aecom.com

MI Identifier: 068MG

Report Date: August 13, 2015

Project: KEP Treatability, 60328687

Comments:

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Executive Summary

A Bio-Trap[®] *In Situ* Microcosm (ISM) study was performed in wells MW-65, MW-82, MW-302, PZ-302, and PZ-301 to investigate whether the addition of an electron donor would stimulate biodegradation of tetrachloroethene (PCE), trichloroethene (TCE), and associated daughter compounds. The ISM assembly deployed in wells MW-65 and MW-82 consisted of three units each: an MNA unit containing no exogenous amendment, a BioStim unit amended with EOS, and a second BioStim unit amended with ABC+. Two-unit ISM assemblies were deployed in wells MW-302, and PZ-302 with an MNA unit and a BioStim unit amended with EOS. In PZ-301, the two-unit ISM assembly included an MNA unit and a BioStim unit amended with ABC+. After a 62-day incubation period, the units were returned to the lab for CENSUS[®] analysis and quantification of contaminant concentrations, dissolved gases, volatile fatty acids (VFAs), and anions. Summaries of the results are provided in Tables 1 - 4 and Figures 1 - 10. Following are key observations from the results obtained for each *in situ* microcosm.

MW-65 MNA, EOS, and ABC+ Units

- In the MNA unit, *Dehalococcoides* populations were detected but at a low concentration (10^1 cells/bead) considerably below the 10^4 cells/mL threshold proposed by Lu et al (2006) as a screening criterion for generally useful rates of reductive dechlorination. Moreover, concentrations of the TCE and vinyl chloride reductase genes were below the detection limit suggesting that the potential for the complete biodegradation of chlorinated ethenes to ethene may be limited under MNA conditions.
- The *Dehalococcoides* population in the EOS unit (10^2 cells/bead) was somewhat greater than in the MNA unit suggesting that electron donor addition stimulated growth of this key group of halorespiring bacteria although TCE and vinyl chloride reductase genes remained below the detection limit.
- Concentrations of sulfate reducing bacteria and methanogens were also higher in the EOS amended unit, suggesting growth of other anaerobic microorganisms in response to electron donor addition.
- *Dehalococcoides* was detected in the ABC+ unit. However, concentrations of *Dehalococcoides* (10^1 cells/bead), sulfate reducing bacteria (10^5 cells/bead) and methanogens (10^3 cells/bead) were not appreciably greater than detected in the MNA unit.
- Consistent with the low *Dehalococcoides* population in the MNA unit, concentrations of vinyl chloride and ethene were low and cis-1,2-dichloroethene (cis-1,2-DCE) was the primary contaminant detected.
- In the EOS unit where *Dehalococcoides* was detected on the order of 10^2 cells/bead, the cis-1,2-DCE concentration was an order of magnitude higher compared to the MNA and ABC+ units. However, contaminant mole fractions (Figure 2) for the EOS and ABC+ units were similar to those observed in the MNA unit and could not confirm enhanced formation of the daughter products vinyl chloride and ethene at least within the deployment period.
- Acetic acid and propionic acid were detected in the EOS unit, indicating that the microorganisms were fermenting the electron donor. VFAs were also detected in the ABC+ unit but at concentrations near the detection limits.
- Sulfate concentrations ranged from 73 mg/L to 180 mg/L suggesting that competition with sulfate reducing bacteria for available electron donors should be considered.
- The results from the ISM units deployed in MW-65 suggested that reductive dechlorination is possible, but it may be limited under current site conditions. EOS addition did appear to stimulate growth of anaerobic microorganisms including sulfate reducing bacteria, methanogens, and most importantly *Dehalococcoides* although formation of vinyl chloride and ethene daughter products was not substantially greater within the deployment period than observed under MNA conditions.

MW-82 MNA, EOS, and ABC+ Units

- A low concentration of *Dehalococcoides* (10^1 cells/bead) was present in the MNA unit deployed in MW-82, and no TCE or vinyl chloride reductase genes were detected.
- *Dehalococcoides* populations were approximately an order of magnitude higher in the EOS and ABC+ units than in the MNA unit suggesting addition of both electron donors stimulated growth of halo-respiring bacteria. No reductase genes were detected in the EOS unit, but the BAV1 vinyl chloride reductase gene was present in the ABC+ unit at a concentration of 10^2 cells/bead.
- Populations of sulfate reducing bacteria were also higher in the EOS and ABC+ units than in the MNA unit which is consistent with the consumption of sulfate observed in the units amended with electron donors.
- The contaminant data indicated that substantial vinyl chloride concentrations were present in the MNA and EOS units, and ethene was also detected. The TCE concentration in the EOS unit was lower than in the MNA while the cis-1,2-DCE concentration was higher which would be consistent with stimulation of reductive dechlorination of TCE. However, increased production of vinyl chloride and ethene relative to the MNA control was not clearly evident.
- In the ABC+ unit, the TCE concentration was much higher than observed in the MNA unit, and vinyl chloride fell below the detection limit. These concentration differences may be due to vertical heterogeneity of contaminants in the subsurface.
- VFAs were detected in the EOS and ABC+ units indicating that indigenous microorganisms were fermenting both electron donors.
- As mentioned previously, sulfate concentrations in the EOS and ABC+ units were near the detection limit while 39 mg/L of sulfate was present in the MNA unit suggesting active sulfate reduction in the units amended with electron donors. Although electron donor addition would be expected to result in more methanogenic conditions, the methane concentration in the MNA unit (240 $\mu\text{g/L}$) was higher compared to the EOS and ABC+ units (37 $\mu\text{g/L}$ and 71 $\mu\text{g/L}$, respectively).
- Overall, the results from MW-82 suggest that the addition of EOS and ABC+ resulted in sulfate reduction and stimulated growth of *Dehalococcoides* although reductive dechlorination to vinyl chloride and ethene was not appreciably enhanced within the deployment period relative to MNA conditions.

MW-302 MNA and EOS Units

- The *Dehalococcoides* concentration was 10^1 cells/bead in the MNA unit deployed in MW-302 and no reductase genes were detected.
- As was observed in MW-65 and MW-82, the *Dehalococcoides* population was on the order of 10^2 cells/bead in the EOS unit suggesting growth in response to electron donor addition.
- Likewise, sulfate reducing bacteria were slightly greater, and methanogens were two orders of magnitude higher in the EOS unit (10^4 cells/bead) compared to the MNA unit (10^2 cells/bead).
- Results from the contaminant analysis suggested vertical differences in the spatial distribution of contaminants as TCE and cis-1,2-DCE concentrations were one to two orders of magnitude higher in the EOS unit compared to the MNA unit. However, daughter products were detected in both units, suggesting that some reductive dechlorination occurred during the 62-day deployment period.
- Acetic acid and propionic acid were detected in the EOS unit as a result of electron donor fermentation.
- However, the dissolved sulfate concentration in the EOS unit remained high (350 mg/L) and sulfate reducing bacteria were detected at a concentration of nearly 10^6 cells/bead. High concentrations of competing electron acceptors like sulfate can hinder reductive dechlorination.

PZ-302 MNA and EOS Units

- *Dehalococcoides* were below practical quantitation limits in the MNA unit, indicating that complete reductive dechlorination of chlorinated ethenes is likely limited under current site conditions.
- In the EOS unit however, *Dehalococcoides* (10^1 cells/bead) was detected although at a low concentration.
- Concentrations of sulfate reducing bacteria (10^5 cells/bead) and methanogens (10^3 cells/bead) were similar between the two units.
- In both units, cis-1,2-DCE was the contaminant present in the highest concentration. However, the cis-1,2-DCE concentration in the EOS unit was two orders of magnitude higher than in the MNA unit, suggesting that the contaminants were not homogeneously distributed in the subsurface.
- Acetic, propionic, and butyric acids were detected in the EOS unit, confirming that the EOS was fermented during the deployment period.
- The geochemical data suggested that conditions were slightly more reducing in the EOS unit since the methane was higher and the sulfate was lower compared to the MNA unit.
- While not an overwhelming increase, the *Dehalococcoides* population in the EOS unit was greater than in the MNA unit suggesting that electron donor addition stimulated the growth of *Dehalococcoides* in PZ-302 as shown for the previous wells discussed. With continued consumption of sulfate and a longer time frame, electron donor addition may further promote growth of halorespiring bacteria and enhance reductive dechlorination.

PZ-301 MNA and ABC+ Units

- The highest *Dehalococcoides* concentrations were detected in the units deployed at PZ-301. The *Dehalococcoides* population in the MNA unit was relatively high and comparable to the threshold value of 10^4 cells/mL proposed by Lu et al (2006) for effective reductive dechlorination. Furthermore, *bvcA* and *vcrA* reductase genes (10^3 and 10^2 cells/bead, respectively) were detected in MNA and ABC+ units, confirming growth of a bacterial population capable of completely dechlorinating PCE and TCE to ethene.
- High concentrations of sulfate reducers (10^5 cells/bead) were detected in both units, but methanogen concentrations were near or below the detection limit.
- Contaminant analysis indicated that TCE and cis-1,2-DCE concentrations were lower in the ABC+ unit compared to the MNA unit, but daughter product concentrations were similar between the units.
- VFAs were detected in the ABC+ unit but at concentrations near the detection limit and sulfate concentrations were similar between the units.
- Overall, the *Dehalococcoides* population and the detection of vinyl chloride reductase genes indicates the potential for complete reductive dechlorination at PZ-301 despite sulfate levels. However, ABC+ addition did not appear to stimulate *Dehalococcoides* or enhance daughter product formation beyond levels observed under MNA conditions within the deployment period.

The *In Situ* Microcosm Approach

Site managers have frequently turned to laboratory microcosms or small pilot studies to evaluate bioremediation. However, duplication of *in situ* conditions in the laboratory is difficult and the results often do not correlate to the field. Pilot studies are performed in the field but are often prohibitively expensive as an investigative tool. Bio-Trap studies serve as cost-effective, *in situ* microcosms providing microbial, chemical, and geochemical evidence to evaluate biodegradation as a treatment mechanism and to screen remedial alternatives.

Typically each Bio-Trap Unit will contain samplers to evaluate the following:

Geochemical Fingerprint (GEO)	• 20 mL amber VOA vial with a nylon screened cap designed for assessment of a variety of geochemical parameters including anions and metabolic acids.
Contaminant of Concern (COC)	• A low density polyethylene (LDPE) passive diffusion bag designed for analysis of a variety of COCs including chlorinated solvents and petroleum hydrocarbons.
Microbial Populations (MICRO)	• PVC cassette containing Bio-Sep beads which provide a large surface area for microbial attachment and were designed for analysis by a variety of molecular biological tools (MBTs).

How do ISMs work?

The MICRO sampler (microbial populations) contains Bio-Sep® beads, an engineered composite of Nomex® and powdered activated carbon which provides an incredibly large surface area (~600 m²/g) that is readily colonized by subsurface microorganisms. In addition to a matrix for microbial growth, the Bio-Sep® beads can be “baited” with amendments including electron donors (e.g. hydrogen releasing compounds) to investigate biostimulation approaches to enhance biodegradation. The ISM units also contain a COC (contaminant of concern) sampler to measure contaminant concentrations, daughter product formation, and dissolved gases and a GEO (geochemical fingerprint) sampler for quantification of geochemical parameters (nitrate, iron, sulfate, etc.), and volatile fatty acids (pyruvic, lactic, acetic, propionic, etc.).

Bio-Trap® *In Situ* Microcosm studies at chlorinated solvent sites typically include three types of Bio-Trap Units deployed within a monitoring well. Each Bio-Trap Unit corresponds to one of the three most common remedial options: monitored natural attenuation (MNA), Biostimulation (BioStim), and Bioaugmentation (BioAug). All three Bio-Trap Units contain COC and GEO samplers for chemical and geochemical analyses. The key difference between the Bio-Trap Units is in the MICRO sampler.

Types of ISM Units typically deployed and MICRO sampler configurations:

<p>Control (MNA)</p>	<ul style="list-style-type: none"> •Bio-Sep® beads contain no additional electron donor and represent current aquifer conditions.
<p>Biostimulation (BioStim)</p>	<ul style="list-style-type: none"> •Bio-Sep® beads are baited with a specified electron donor (sodium lactate, EOS, HRC, molasses, etc) or an Amendment Supplier is used to release the desired amendment.
<p>Bioaugmentation (BioAug)</p>	<ul style="list-style-type: none"> •Bio-Sep® beads are pre-inoculated with a <i>Dehalococcoides</i> culture. These units can also be baited with an additional electron donor.

MNA Unit: The purpose of the Control ISM Unit is to quantify contaminant degrading bacteria and daughter product formation under monitored natural attenuation (MNA) conditions and to serve as a baseline for comparison to BioStim and/or BioAug Units.

Following in-well deployment, DNA or phospholipid fatty acids can be extracted from the Bio-Sep beads for CENSUS or PLFA analyses. For example, DNA extracted from the Bio-Sep beads can be used in CENSUS analysis of *Dehalococcoides* (qDHC) and vinyl chloride reductase (qVC) genes to evaluate the potential for complete reductive dechlorination of PCE to ethene under MNA conditions. The VOC and anion samplers can be used to determine concentrations of contaminants, daughter products, dissolved gases, terminal electron acceptors, and chloride.

BioStim Unit: The Biostimulation ISM Unit is designed to test the hypothesis that electron donor addition will stimulate growth of dechlorinating bacteria and enhance biodegradation. As with the MNA Unit, the BioStim Unit contains COC and GEO samplers for chemical analyses. The BioStim Unit may contain either a MICRO sampler that contains Bio-Sep beads “baited” with the specified electron donor or an amendment supplier to release the desired amendment over the incubation time. If an Amendment Supplier is used the MICRO sampler will contain standard Bio-Sep beads for the growth matrix.

BioAug Unit: The Bioaugmentation ISM Unit is designed to evaluate bioaugmentation as a treatment technology. The MICRO sampler contains Bio-Sep beads pre-inoculated with the desired commercial culture and also contains an electron donor of choice. As with the MNA and BioStim Units, the BioAug Unit also contains a COC and GEO samplers for chemical analyses.

CENSUS®

Based on quantitative polymerase chain reaction (qPCR), CENSUS® is a nucleic acid-based approach to quantify specific microorganisms, groups of microorganisms, or functional genes involved in bioremediation or other biological processes. CENSUS® targets include bacteria and functional genes responsible for biodegradation of chlorinated solvents and petroleum products among others.

Phospholipid Fatty Acids (PLFA)

PLFA are a primary component of the membrane of all living cells including bacteria. PLFA decomposes rapidly upon cell death (1, 2), so the total amount of PLFA present in a sample is indicative of the viable biomass. When combined with stable isotope probing (SIP), incorporation of ^{13}C into PLFA is a conclusive indicator of biodegradation.

Some organisms produce “signature” types of PLFA allowing quantification of important microbial functional groups (e.g. iron reducers, sulfate reducers, or fermenters). The relative proportions of the groups of PLFA provide a “fingerprint” of the microbial community. In addition, Proteobacteria modify specific PLFA during periods of slow growth or in response to environmental stress providing an index of their health and metabolic activity.

Results

Table 1. Summary of results obtained for well MW-65.

Sample Information	MW-65 MNA	MW-65 EOS	MW-65 ABC+
Retrieval Date	7/20/15	7/20/15	7/20/15
Reductive Dechlorination (cells/bead)			
<i>Dehalococcoides</i> (DHC)	6.82E+01	2.16E+02	4.62E+01
tceA Reductase (TCE)	<2.50E+01	<2.50E+01	<2.50E+01
BAV1 Vinyl Chloride Reductase (BVC)	<2.50E+01	<2.50E+01	<2.50E+01
Vinyl Chloride Reductase (VCR)	<2.50E+01	<2.50E+01	<2.50E+01
Sulfate Reducing Bacteria (APS)	1.54E+06	2.53E+07	3.75E+06
Methanogen (MGN)	3.48E+03	5.56E+04	2.75E+03
Contaminant of Concern (µg/L)			
Tetrachloroethene	<10	<10	<10
Trichloroethene	41.9	<10	35.1
1,1-Dichloroethene	<10	<10	<10
cis-1,2-Dichloroethene	532	1,100	821
trans-1,2-Dichloroethene	7.7	15.0	15.6
Vinyl chloride	11.2	20.2	16.7
Dissolved Gases (µg/L)			
Ethene	0.18	0.41	0.55
Ethane	0.062 (J)	0.30	0.32
Methane	53	84	69
Volatile Fatty Acids (mg/L)			
Acetic Acid	1.3 (J)	28	1.5 (J)
Propionic Acid	<5.0	32	2.4 (J)
Pyruvic Acid	<5.0	<5.0	<5.0
Butyric Acid	<5.0	<5.0	<5.0
Lactic Acid	<10	<10	<10
Anions (mg/L)			
Chloride	200	770	620
Nitrite	<5.0	<12	<12
Nitrate	<0.50	<0.50	<0.50
Ortho Phosphate	<1.5	<1.5	<1.5
Sulfate	73	150	180

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited < = Result not detected

Table 2. Summary of results obtained for well MW-82.

Sample Information	MW-82 MNA	MW-82 EOS	MW-82 ABC+
Retrieval Date	7/20/15	7/20/15	7/20/15
Reductive Dechlorination (cells/bead)			
<i>Dehalococcoides</i> (DHC)	4.85E+01	1.24E+02	7.16E+02
tceA Reductase (TCE)	<2.50E+01	<2.50E+01	<2.50E+01
BAV1 Vinyl Chloride Reductase (BVC)	<2.50E+01	<2.50E+01	2.97E+02
Vinyl Chloride Reductase (VCR)	<2.50E+01	<2.50E+01	<2.50E+01
Sulfate Reducing Bacteria (APS)	5.85E+05	5.19E+06	1.33E+06
Methanogen (MGN)	2.64E+04	4.85E+03	4.75E+03
Contaminant of Concern (µg/L)			
Tetrachloroethene	<10	<10	<10
Trichloroethene	219	76.8	2,950
1,1-Dichloroethene	<10	<10	<10
cis-1,2-Dichloroethene	699	771	1,090
trans-1,2-Dichloroethene	45.5	32.0	25.9
Vinyl chloride	388	340	<10
Dissolved Gases (µg/L)			
Ethene	3.3	0.18	1.8
Ethane	0.20	0.20	1.6
Methane	240	37	71
Volatile Fatty Acids (mg/L)			
Acetic Acid	3.3 (J)	39	56
Propionic Acid	1.3 (J)	9.4	8.2
Pyruvic Acid	<5.0	<5.0	<5.0
Butyric Acid	<5.0	<5.0	1.5 (J)
Lactic Acid	<10	<10	<10
Anions (mg/L)			
Chloride	1,000	1,300	1,300
Nitrite	<12	<12	<12
Nitrate	<0.50	<0.50	0.22 (J)
Ortho Phosphate	<1.5	2.7	2.1
Sulfate	39	0.92 (J)	0.36 (J)

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited < = Result not detected

Table 3. Summary of results obtained for wells MW-302 and PZ-302.

Sample Information	MW-302 MNA	MW-302 EOS	PZ-302 MNA	PZ-302 EOS
Retrieval Date	7/20/15	7/20/15	7/20/15	7/20/15
Reductive Dechlorination (cells/bead)				
<i>Dehalococcoides</i> (DHC)	1.52E+01 (J)	1.95E+02	<2.50E+01	7.32E+01
tceA Reductase (TCE)	<2.50E+01	<2.50E+01	<2.50E+01	<2.50E+01
BAV1 Vinyl Chloride Reductase (BVC)	<2.50E+01	<2.50E+01	<2.50E+01	<2.50E+01
Vinyl Chloride Reductase (VCR)	<2.50E+01	<2.50E+01	<2.50E+01	<2.50E+01
Sulfate Reducing Bacteria (APS)	4.35E+05	9.43E+05	1.47E+05	2.67E+05
Methanogen (MGN)	4.97E+02	1.18E+04	4.01E+03	4.18E+03
Contaminant of Concern (µg/L)				
Tetrachloroethene	<10	<10	<10	<10
Trichloroethene	22.7	4,440	19.5	167
1,1-Dichloroethene	<10	<10	<10	86.9
cis-1,2-Dichloroethene	230	2,170	156	17,800
trans-1,2-Dichloroethene	2.0	82.7	1.7	223
Vinyl chloride	<10	73.0	<10	<10
Dissolved Gases (µg/L)				
Ethene	5.0	8.4	4.1	11
Ethane	3.6	2.0	0.90	2.5
Methane	360	150	9.2	29
Volatile Fatty Acids (mg/L)				
Acetic Acid	1.6 (J)	20	2.9 (J)	86
Propionic Acid	<5.0	3.7 (J)	1.2 (J)	23
Pyruvic Acid	<5.0	<5.0	<5.0	<5.0
Butyric Acid	<5.0	<5.0	<5.0	2.5 (J)
Lactic Acid	<10	<10	<10	<10
Anions (mg/L)				
Chloride	280	380	300	410
Nitrite	<5.0	<5.0	<5.0	<5.0
Nitrate	<0.50	<0.50	<0.50	<0.50
Ortho Phosphate	<1.5	<1.5	<1.5	<1.5
Sulfate	220	350	180	48

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited < = Result not detected

Table 4. Summary of results obtained for well PZ-301.

Sample Information	PZ-301 MNA	PZ-301 ABC+
Retrieval Date	7/20/15	7/20/15
Reductive Dechlorination (cells/bead)		
<i>Dehalococcoides</i> (DHC)	1.12E+04	3.44E+03
tceA Reductase (TCE)	<2.50E+01	<2.50E+01
BAV1 Vinyl Chloride Reductase (BVC)	7.73E+03	2.26E+03
Vinyl Chloride Reductase (VCR)	6.40E+02	1.12E+02
Sulfate Reducing Bacteria (APS)	1.30E+05	3.78E+05
Methanogen (MGN)	1.22E+01 (J)	<2.50E+02
Contaminant of Concern (µg/L)		
Tetrachloroethene	<10	<10
Trichloroethene	888	46.4
1,1-Dichloroethene	<10	<10
cis-1,2-Dichloroethene	2,460	1,900
trans-1,2-Dichloroethene	25.8	19.8
Vinyl chloride	139	149
Dissolved Gases (µg/L)		
Ethene	15	21
Ethane	3.1	5.5
Methane	750	640
Volatile Fatty Acids (mg/L)		
Acetic Acid	1.8 (J)	3.8 (J)
Propionic Acid	<5.0	0.84 (J)
Pyruvic Acid	<5.0	<5.0
Butyric Acid	2.3 (J)	<5.0
Lactic Acid	<10	<10
Anions (mg/L)		
Chloride	1,100	1,600
Nitrite	<12	<12
Nitrate	<0.50	<0.50
Ortho Phosphate	<1.5	<1.5
Sulfate	200	190

Legend:

NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited < = Result not detected

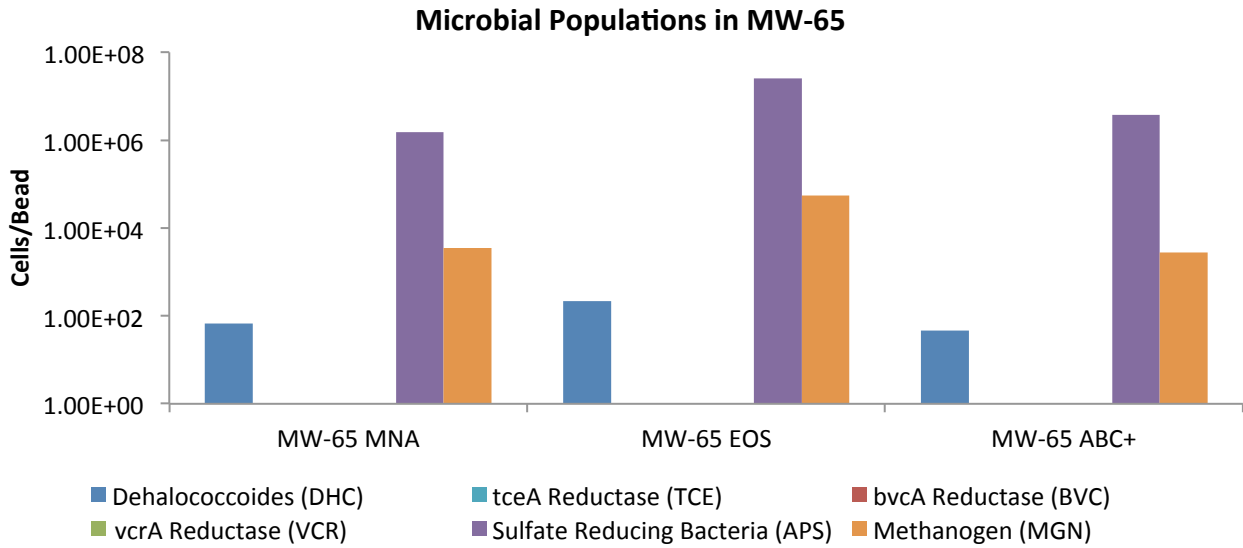


Figure 1. CENSUS® results for selected microbial populations (cells/bead) in MW-65.

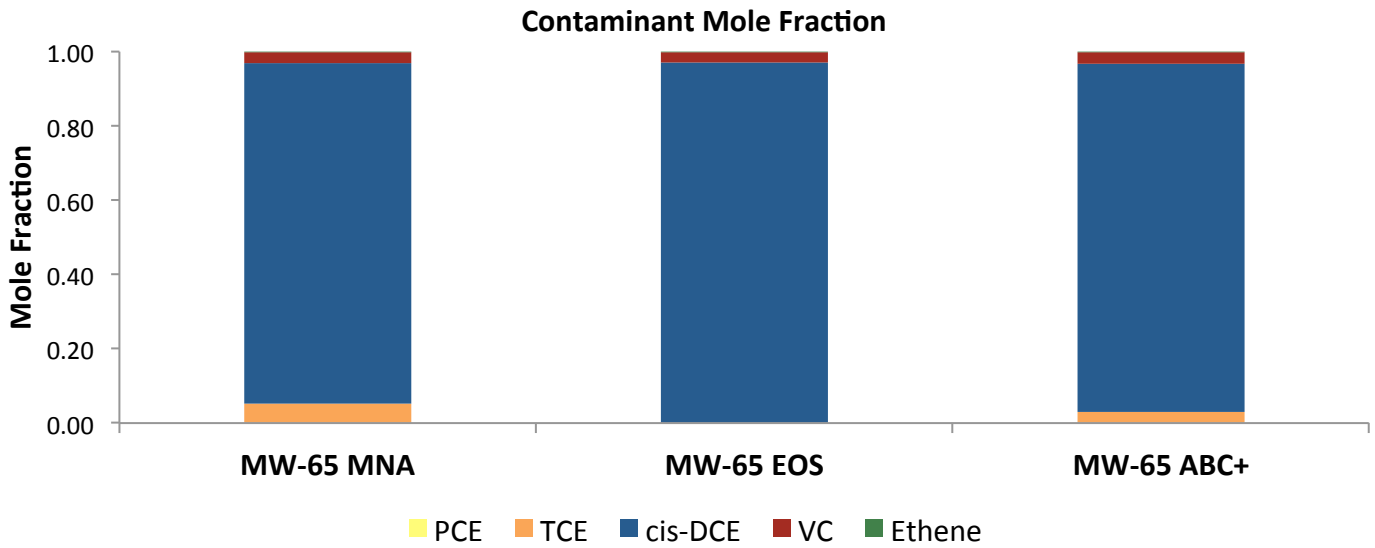


Figure 2. Contaminant mole fractions from ISM units deployed in MW-65.

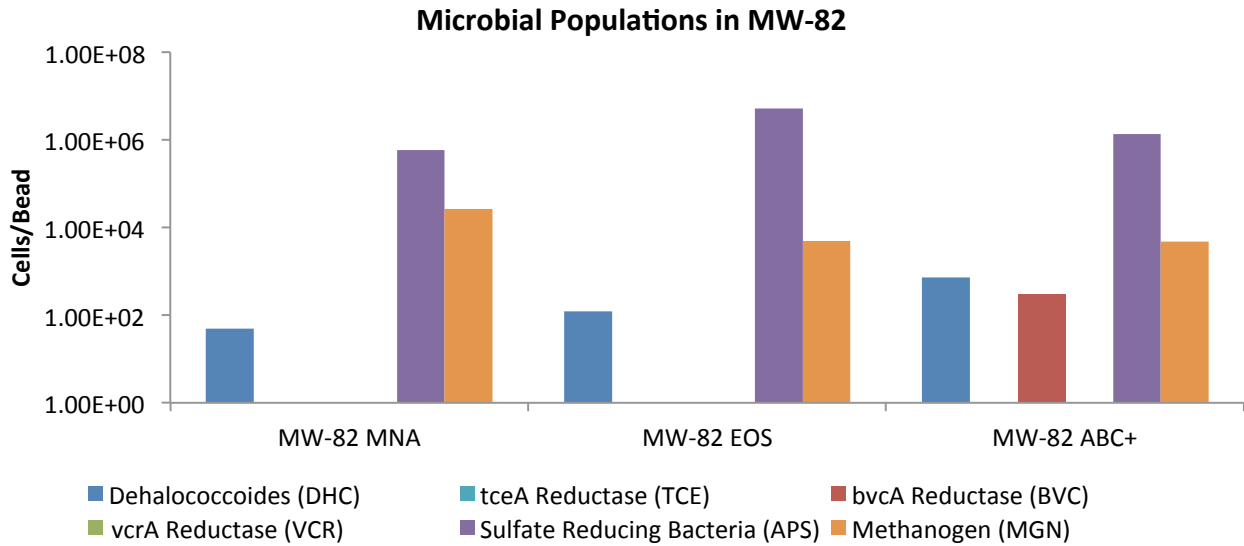


Figure 3. CENSUS® results for selected microbial populations (cells/bead) in MW-82.

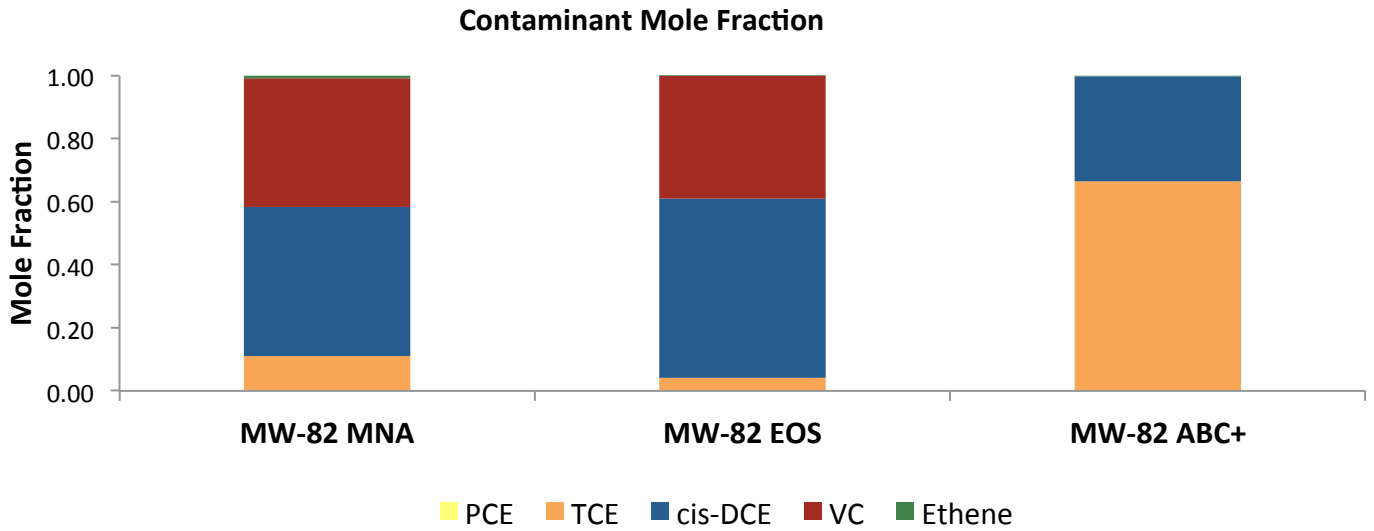


Figure 4. Contaminant mole fractions from ISM units deployed in MW-82.

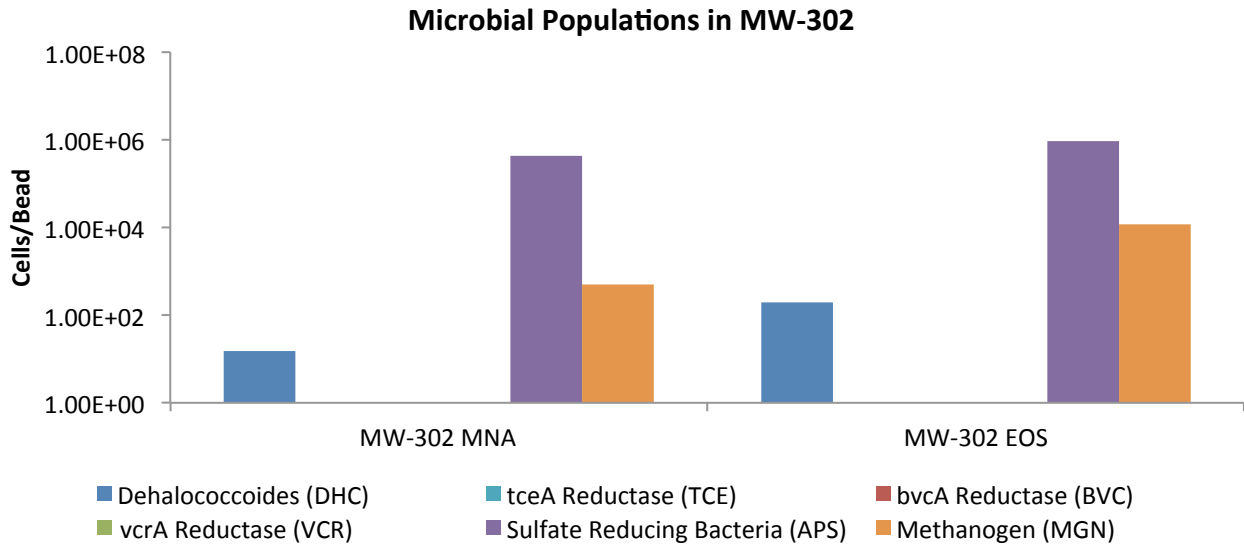


Figure 5. CENSUS® results for selected microbial populations (cells/bead) in MW-302.

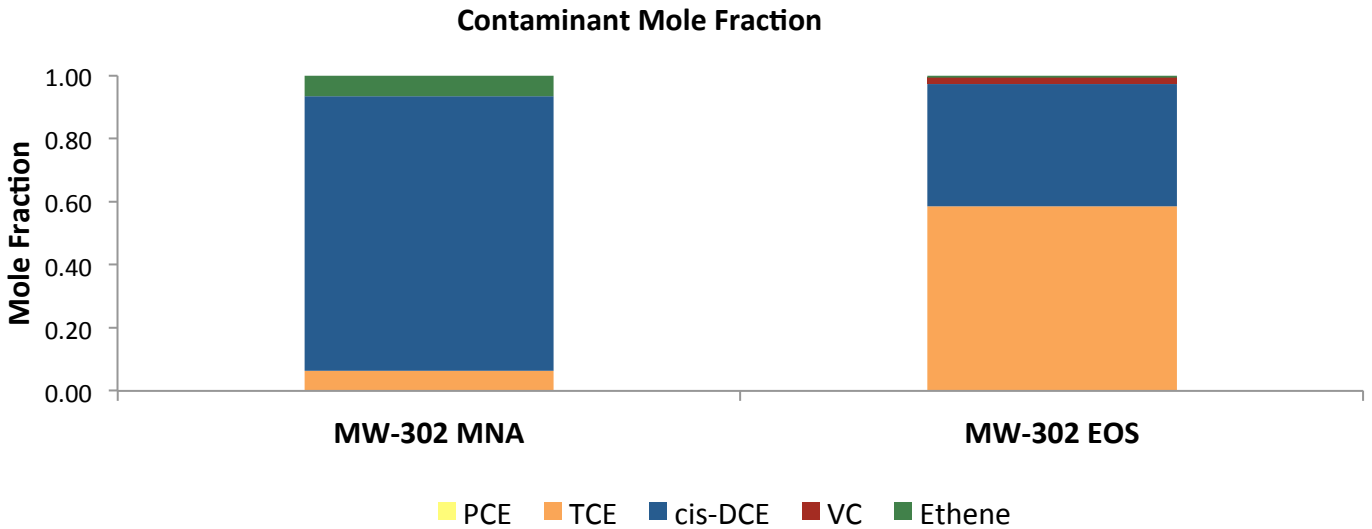


Figure 6. Contaminant mole fractions from ISM units deployed in MW-302.

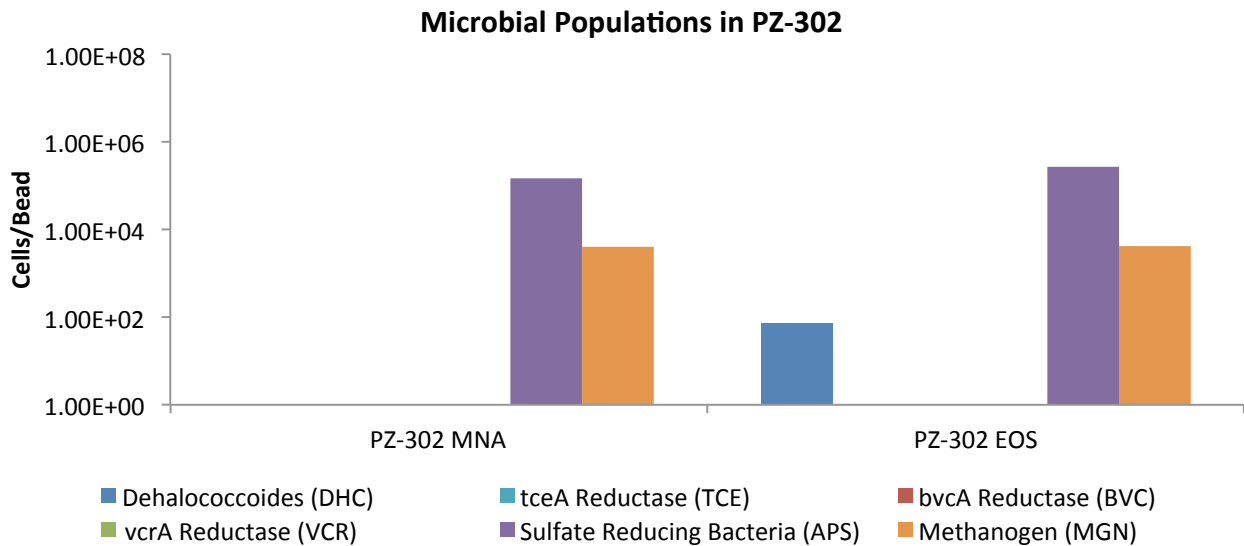


Figure 7. CENSUS® results for selected microbial populations (cells/bead) in PZ-302.

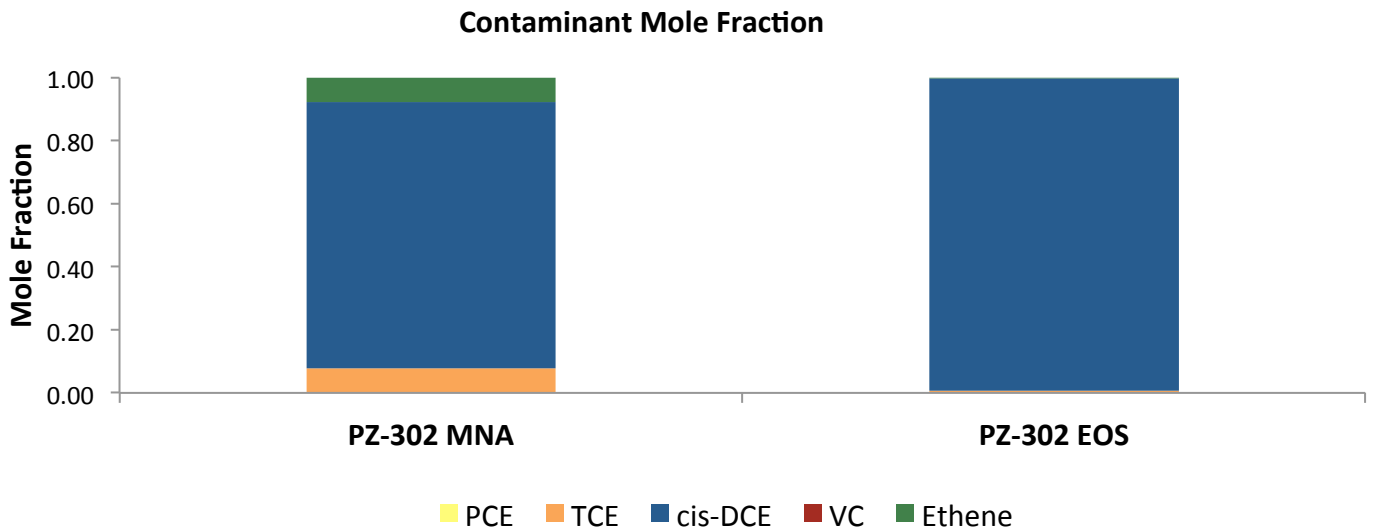


Figure 8. Contaminant mole fractions from ISM units deployed in PZ-302.

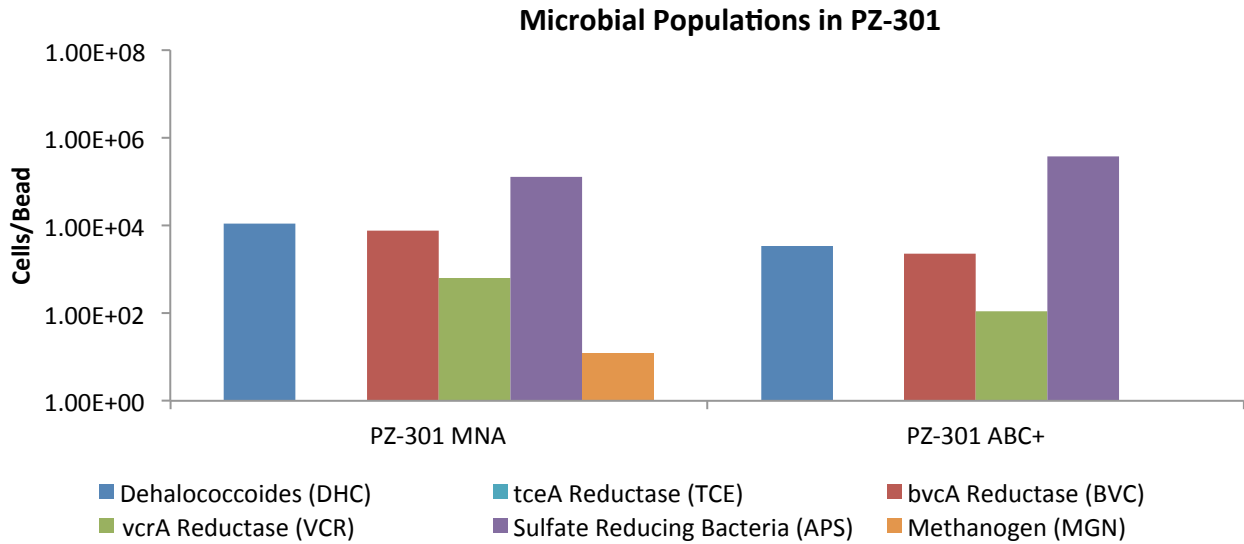


Figure 9. CENSUS® results for selected microbial populations (cells/bead) in PZ-301.

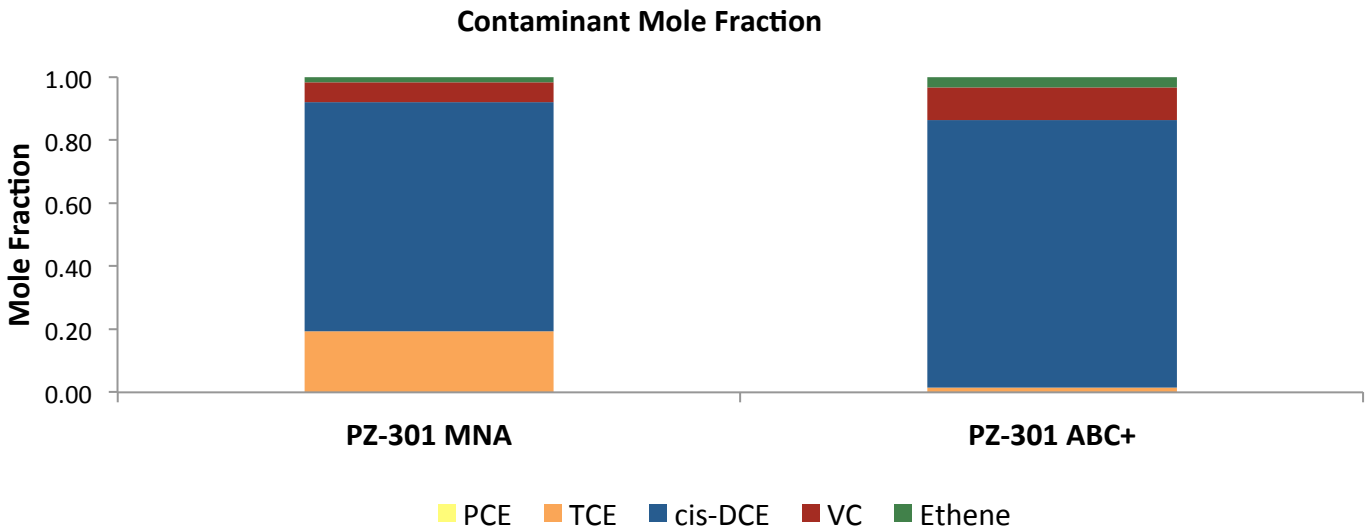


Figure 10. Contaminant mole fractions from ISM units deployed in PZ-301.

Interpretation

Bio-Trap® *In Situ* Microcosm studies are designed to provide the chemical, geochemical, and microbiological lines of evidence required to evaluate remediation options in a single, cost-effective field study. To aid in the decision making process, comparisons should generally focus on differences in results between *In Situ* Microcosm units. For example, comparison of the *Dehalococcoides* populations in the Control and BioStim units can be used to assess whether electron donor addition would stimulate growth of this key group of halorespiring bacteria. While results for individual analyses should be compared between units, overall interpretation should integrate all lines of evidence with due consideration of site conditions, site activities, and the desired treatment mechanism. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Microbial Populations: CENSUS® analysis allows site managers to quantify targeted members of the microbial community deemed critical for site remediation. Total Eubacteria provides an index of the total bacterial biomass and is generally greater than 10^6 cells/bead in the absence of factors inhibiting microbial growth. While a number of bacterial cultures capable of utilizing PCE and TCE as growth supporting electron acceptors have been isolated¹⁻⁵, *Dehalococcoides* spp. may be the most important because they are the only bacterial group that has been isolated to date which is capable of complete reductive dechlorination of PCE to ethene⁶. In fact, the presence of *Dehalococcoides* spp. has been associated with the full dechlorination to ethene at sites across North America and Europe⁷. Thus, CENSUS® quantification of *Dehalococcoides* in each Bio-Trap *In Situ* Microcosm unit can be used to evaluate the likelihood of complete reductive dechlorination of PCE and TCE under MNA conditions, the ability of electron donor addition alone to stimulate growth of halorespiring bacteria (BioStim), and the survival of commercial *Dehalococcoides* cultures in the field (BioAug). The accumulation of the daughter products *cis*-DCE and vinyl chloride termed “DCE stall” is relatively common at PCE/TCE sites especially under MNA conditions. Accumulation of vinyl chloride, generally considered more carcinogenic than the parent compounds, is particularly problematic. CENSUS® quantification of vinyl chloride reductase genes (*bvcA* and *vcrA*) was developed to more definitively confirm the potential for biodegradation of vinyl chloride. Again, comparison of vinyl chloride reductase copies between units can be used to assess the efficacy of enhanced bioremediation approaches (biostimulation and bioaugmentation) to enhance populations of organisms specifically capable of reductive dechlorination of vinyl chloride.

Dissolved Gases: When comparing concentrations of dissolved gases between *In Situ* Microcosm units, particular care should be afforded to the dissolved ethene concentration. While ethene can volatilize, can be further metabolized, or be further reduced to ethane in some environments, greater concentrations of ethene generally indicate complete reductive dechlorination of PCE and TCE. In addition to quantifying the end products of reductive dechlorination, analysis of dissolved gases includes determination of dissolved methane. Combined with results of geochemical analysis (See Anions), elevated methane concentrations are indicative of highly reducing conditions conducive to reductive dechlorination. However, methanogens also compete with dechlorinating bacteria including *Dehalococcoides* for available hydrogen.

Anions: Although increases in chloride ion concentrations are often coupled with reductive dechlorination and daughter product formation, the main purpose of the GEO sampler is to measure concentrations of competing electron acceptors and assess the redox status. Elevated concentrations of nitrate, for example, would suggest anoxic conditions less conducive to reductive dechlorination. Production of ferrous iron combined with elevated sulfate concentrations generally indicates iron reducing conditions. Lower concentrations of sulfate combined with sulfide production (but low methane production) suggests sulfate reducing conditions. The production of methane (Table 1 - dissolved gases) suggests highly reducing, methanogenic conditions. While dechlorination of TCE to *cis*-DCE occurs under iron reducing conditions (and in more strongly reducing environments), further reduction to vinyl chloride and ethene may require more anaerobic conditions (sulfate reduction and methanogenesis).

Biomass Concentrations: PLFA analysis is one of the most reliable and accurate methods available for the determination of viable (live) biomass. Phospholipids break down rapidly upon cell death, so biomass calculations based on PLFA content do not include “fossil” lipids from dead cells. Total biomass (cells/bead) is calculated from total PLFA using a conversion factor of 20,000 cells/pmole of PLFA. When making comparisons between wells, treatments, or over time, differences of one order of magnitude or more are considered significant.

Total Biomass		
Low	Moderate	High
10^3 to 10^4 cells	10^5 to 10^6 cells	10^7 to 10^8 cells

Community Structure (% total PLFA): Community structure data is presented as a percentage of PLFA structural groups normalized to the total PLFA biomass. The relative proportions of the PLFA structural groups provide a “fingerprint” of the types of microbial groups (e.g. anaerobes, sulfate reducers, etc.) present and therefore offer insight into the dominant metabolic processes occurring at the sample location. Thorough interpretation of the PLFA structural groups depends in part on an understanding of site conditions and the desired microbial biodegradation pathways. For example, an increase in mid chain branched saturated PLFA (MidBrSats), indicative of sulfate reducing bacteria (SRB) and Actinomycetes, may be desirable at a site where anaerobic BTEX biodegradation is the treatment mechanism, but would not be desirable for a corrective action promoting aerobic BTEX or MTBE biodegradation. The following table provides a brief summary of each PLFA structural group and its potential relevance to bioremediation.

Description of PLFA structural groups.

PLFA Structural Group	General classification	Potential Relevance to Bioremediation Studies
Monoenoic (Monos)	Abundant in Proteobacteria (Gram negative bacteria), typically fast growing, utilize many carbon sources, and adapt quickly to a variety of environments.	Proteobacteria is one of the largest groups of bacteria and represents a wide variety of both aerobes and anaerobes. The majority of hydrocarbon utilizing bacteria fall within the Proteobacteria
Terminally Branched Saturated (TerBrSats)	Characteristic of Firmicutes (Low G+C Gram-positive bacteria), and also found in Bacteriodes, and some Gram-negative bacteria (especially anaerobes).	Firmicutes are indicative of presence of anaerobic fermenting bacteria (mainly <i>Clostridia/Bacteriodes</i> -like), which produce the H ₂ necessary for reductive dechlorination
Branched Monoenoic (BrMonos)	Found in the cell membranes of micro-aerophiles and anaerobes, such as sulfate- or iron-reducing bacteria	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Mid-Chain Branched Saturated (MidBrSats)	Common in sulfate reducing bacteria and also Actinobacteria (High G+C Gram-positive bacteria).	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Normal Saturated (Nsats)	Found in all organisms.	High proportions often indicate less diverse populations.
Polyenoic	Found in higher plants, and animals.	Eukaryotic scavengers will often prey on contaminant utilizing bacteria.

Physiological Status (Proteobacteria): Some Proteobacteria modify specific PLFA as a strategy to adapt to stressful environmental conditions (11, 12). For example, *cis* monounsaturated fatty acids may be modified to cyclopropyl fatty acids during periods of slowed growth or modified to *trans* monounsaturated fatty acids to decrease membrane permeability in response to environmental stress. The ratio of product to substrate fatty acid thus provides an index of their health and metabolic activity. In general, status ratios greater than 0.25 indicate a response to unfavorable environmental conditions.

Glossary

Amendment Supplier: a component that fits inside the MICRO-Trac/Bio-Trap unit at the bottom. This component is designed to slowly diffuse a desired amendment within a BioStim and/or a BioAug Unit during the incubation time.

Sampler: Individual components consisting either of a geochemical (GEO), contaminant of concern (COC) or microbial (MICRO) sampler. Geochemical samplers are essentially VOA vials with special septa that facilitate transfer. The microbial samplers are made from a smaller PVC pipe ~1" x 3 1/2" and contains Bio-Sep® beads which serve as a microbial growth matrix.

COC Sampler: 40 mL amber VOA with a low density polyethylene membrane permitting passive diffusion of volatile organic compounds (VOCs).

GEO Sampler: a 20 mL amber VOA with a nylon based membrane permitting passive diffusion of anionic species.

MICRO Sampler: a polyvinylchloride cassette containing Bio-Sep® beads which provide a large surface area for microbial growth. In addition to a matrix for microbial growth, the Bio-Sep® beads can be "baited" with amendments including ¹³C labeled chlorobenzene as used in this study. Bio-Sep® beads were designed to allow extraction of phospholipids fatty acids and DNA for analysis of microbial communities.

Unit: 1.25" x 15" PVC housing that all of the samplers are place into for deployment. Units will have baffled end caps to separate different zones within the monitoring well. Typically each unit will correspond to a treatment approach.

Assembly: Collections of Units for a particular monitoring well. Samplers (GEO, COC, and MICRO) are placed in each unit. Units are linked to form an Assembly. An entire Assembly (consisting of multiple units) is deployed in each well.

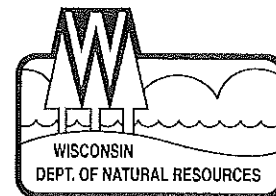
CENSUS: CENSUS is based on a technique called quantitative polymerase chain reaction (qPCR) whereby many copies of a specific gene are generated. As each gene copy is made, a fluorescent marker is released, measured, and used to quantify the number of target genes present in a sample.

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Appendix B

Temporary Injection Exemption and Coverage Under the General WPDES Permit (WDNR, December 2016)



December 2, 2016

M(s). Shelly Billingsley
Director of Public Works
City of Kenosha
Kenosha, WI 53140

Subject: Temporary Injection Exemption Request for Former Kenosha Engine Plant, 5555 30th Avenue, Kenosha WI 53140, BRRTS # 02-30-000327, FID # 230004500

Dear M(s). Billingsley:

The purpose of this letter is to provide a temporary exemption for the injection of a remedial material into groundwater. On October 24, 2016 the Wisconsin Department of Natural Resources (WDNR) received a request for a temporary exemption to pilot inject Sodium Permanganate and Enhanced Reductive Dechlorination (ERD) using ABC®+ and Bioaugmentation to treat targeted CVOCs in the soil and groundwater at the 5555 30th Avenue, Kenosha, Wisconsin. The request was submitted by AECOM the project's environmental consultant, who is representing the 5555 30th Avenue, Kenosha WI including the submission of a \$700 review fee. AECOM also made a request for a WPDES General Permit for Contaminated Groundwater for Remedial Action Operations at the site dated September 30th, 2016. A WDNR injection approval and a WPDES permit are required prior to the injection of remedial materials into the subsurface. This temporary exemption provides assurance to the City of Kenosha that the proposed diluted oxidant method proposed for the environmental cleanup conforms to s. 292.12, Wis. Stats. WDNR approved the Remedial Action of this site on August 18 2016 which was modified on August 22, 2016

AECOM proposes to pilot test 7% ABC®+, a mixture of lactates, fatty acids, glycerol, phosphate buffer and zero-valent iron (ZVI) and RTB-1®, commercial culture of Dehalococcoides (DHC) solution. The pilot study will consist of injecting sodium permanganate at six to eight locations. The injection point spacing will be 20 feet with a 10 foot radius. Sodium permanganate and any catalyst will be diluted with portable water to a vendor recommended concentration of 2.7 to 4.0%. Injection will be through direct push of the diluted oxidant. The saturated treatment zone ranges in depth from about 8 feet bgs to 20 feet bgs with a thickness of 12feet treat targeted CVOCs in the soil and groundwater at the 5555 30th Avenue, Kenosha, Wisconsin

Determination on the NR 812 Injection Prohibitions:

The injection prohibition under s. NR 812.05, Wis. Adm. Code, is not applicable in this case because the proposed action is a WDNR-approved activity necessary for the remediation of soil and groundwater. This letter serves as your approval from the WDNR to inject the proposed diluted oxidant method to treat CVOCs, including PCE, trichloroethylene (TCE), and breakdown products, cis-1, 2-dichloroethene (cis-1, 2-DCE) and vinyl chloride (VC) in groundwater, in accordance with this temporary exemption.

NR 140 Temporary Exemptions:

WDNR approval is hereby granted to AECOM for the injection of the proposed in-situ enhanced reductive dechlorination using in-situ blending methods at the Former Kenosha Engine Plant, 5555 30th Avenue, Kenosha,

WI with certain terms and conditions. The expiration date of this temporary exemption must be less than 5 years, per NR 140.28(5) (e) 1. from the date of this letter.

The need to obtain a temporary exemption for the injection of a remedial material for which a groundwater quality standard has not been established is required under s. NR 140.28 (1) (d), Wis. Adm. Code. Based on the information provided by your consultant, it appears the requirements for a temporary exemption for the injection of a remedial material for which a groundwater quality has not been established under s. NR 140.28 (1) (d) have been or will be met in accordance with s. NR 140.28 (5) (c) and (d), Wis. Adm. Code.

Department approval is granted with the following terms and conditions:

A. General:

1. The remedial action for restoring contaminated groundwater or soil, and any infiltrated or injected contaminated water and remedial materials, shall achieve the applicable response objectives required by s. NR 140.24 (2) or s. NR 140.26 (2), Wis. Adm. Code, within a reasonable period of time.
2. The type, concentration and volume of substances or remedial material to be infiltrated or injected shall be minimized to the extent that is necessary for restoration of the contaminated groundwater.
3. Any infiltration or injection of contaminated water or remedial material into groundwater shall not significantly increase the threat to public health, or welfare, or to the environment.
4. No uncontaminated or contaminated groundwater, substance or remedial material shall be infiltrated or injected into an area where a floating non-aqueous liquid is present in the contaminated groundwater.
5. There shall be no expansion of soil or groundwater contamination, or migration of any infiltrated or injected contaminated water or remedial material, beyond the edge of previously contaminated areas, except that infiltration or injection into previously uncontaminated areas may be allowed if the Department determines that expansion into adjacent, previously uncontaminated areas is necessary for the restoration of the contaminated groundwater, and the requirements of s. NR 140.18 (1), Wis. Adm. Code will be met.
6. All necessary federal, state and local licenses, permits and other approvals are obtained and compliance with all applicable environmental protection requirements is required. A WPDES general permit for Discharge of Contaminated Groundwater from Remedial Action Operations is required for this action.

B. Specific:

7. The remedial materials to be injected to the groundwater shall be limited to 7% ABC®+, a mixture of lactates, fatty acids, glycerol, phosphate buffer and zero-valent iron (ZVI) and RTB-1®, commercial culture of Dehalococcoides (DHC) solution to treat targeted CVOCs in the soil and groundwater at the Former Kenosha Engine Plant, 5555 30th Avenue, Kenosha, Wisconsin
8. The remedial material and injection project shall be as described in AECOM's October 24, 2016 request.
9. AECOM notify the Southeast Region WDNR Project Manager of field activities no less than one (1) week before starting the injection.
10. Include soil vapor screening, using a PID, as a best management practice as part of the monitoring plan.
11. Remediation progress reports shall be submitted semi-annually, and shall include the groundwater Monitoring results. The first report should be submitted not more than three months after the first injection. Recommendations as to the next phase of sampling and/or the need for additional treatment shall be included in a future report. This report shall be submitted prior to the expiration date of this temporary approval.
12. Any significant changes to the injection process, based on information from the injection groundwater Monitoring reports or results shall be submitted to the WDNR for approval prior to the changes being implemented to plot test 7% ABC®+, a mixture of lactates, fatty acids, glycerol, phosphate buffer and zero-valent iron (ZVI) and RTB-1®, commercial culture of Dehalococcoides (DHC) solution to treat

targeted CVOCs in the soil and groundwater at the Former Kenosha Engine Plant, 5555 30th Avenue, Kenosha. This includes, but is not limited to, adjustments to the volume/mass of the media injected, additional injection points, number of Injection/delivery events, and/or changes in the type of remediation media used in the injection points.

13. Modifications to the sampling schedule may be requested.
14. The responsible party may apply to the WDNR for an extension of this approval in the event that future injection/delivery activities are required, and the WDNR must receive any extension request before the expiration date of this approval.
15. The WDNR will review all permit extension requests, site-specific data and or any other necessary information.
16. Upon completion of the project, the placement monitoring wells must be abandoned in accordance with s. NR 141.25, Wis. Adm. Code, and later topped off with grout or native soils if settling occurs, unless converted to NR141 complying monitoring wells, or through an alternative approved by the WDNR Project Manager.

Monitoring Conditions: In addition to your plan, it is your responsibility to meet all of the following approval conditions during and related to your proposed infiltration/injection procedures at this site. The conditions are:

1. Maintain and follow the Site Specific Health and Safety Plan in accordance with the Occupation Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (USEPA) health and safety standards for hazardous waste workers.
2. If a chlorinated water source (i.e. municipal water) is used as the make-up water, it shall be filtered through an activated carbon filter or method proposed in your report to remove chlorine.
3. Record the start and stop times and the actual volume of the proposed in-situ enhanced reductive dechlorination using in-situ blending methods injected into each Injection or delivered to each placement monitoring well.
4. Monitor the ambient air in and around the work area during the proposed in-situ enhanced reductive dechlorination using in-situ blending methods.
5. Monitor the headspace of all injection points prior to each the proposed in-situ enhanced reductive dechlorination using in-situ blending methods.
6. Monitor the headspace of all groundwater monitoring wells prior to each groundwater monitoring event.
7. Conduct vapor monitoring at the closest proposed monitoring well locations, including a measurement of percent (%) LEL every 15 minutes during the first hour of each infiltration event.
8. Immediately notify the WDNR if any new groundwater quality enforcement standards are exceeded during monitoring.
9. Notify digger's hotline and all owners of utility-lines if your project requires this. Also notify the local fire department prior to injection activities, and ensure that any representatives of these entities be allowed to observe the injection activities, as needed after completing the injection, sample all monitoring wells for applicable parameters quarterly.
10. Ensure that the injection is performed at less than 100 psi at a rate which minimizes solution mounding in the aquifer, and plume disfigurement.
11. Maintain a log of all field monitoring results and injection/delivering activities.
12. Document and report all project activities and all test results to the WDNR within 60 days of completing the injection activities.

Failure to adhere to the provisions of this temporary exemption may result in WDNR requiring revisions to the remedial action design, operation or monitoring procedures, or the revocation of this exemption and the implementation of an alternative remedial action to restore soil or groundwater quality, or both.

WPDES Permit

Your proposed discharge is eligible for coverage under the general Wisconsin Pollutant Discharge Elimination System (WPDES) permit WI-0046566-06 for Discharge of Contaminated Groundwater from Remedial Action Operations. You are responsible for compliance with the conditions contained in this permit. The permit and an accompanying facts sheet can be downloaded from the WDNR website at <http://dnr.wi.gov/topic/wastewater/GeneralPermits.html>. The amended water will be injected into the groundwater. No pollutants shall be injected into the groundwater.

Discharges under this permit are required to be consistent with a discharge management plan that has been approved by the WDNR. Your plan, AECOM's October 24, 2016 request will be considered as the required discharge management plan, which specifies analytical sampling of the discharge for VOC and RCRA Metals.

Treatment will be provided by injection/delivering of the proposed in-situ enhanced reductive dechlorination using in-situ blending methods to soil and groundwater. The facility must immediately notify the WDNR if any treated groundwater will be discharged to surface water. Any significant system changes will require WDNR approval.

The WDNR hereby authorizes your pollutant discharge under the general WPDES permit for Discharge of Contaminated Groundwater from Remedial Action Operations (WI-0046566-6). The following conditions are highlighted for your information:

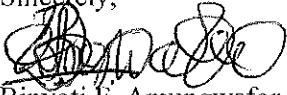
Section 283.35, Wisconsin Statutes, authorizes the WDNR to issue general permits for discharges from categories or classes of point sources. If a permittee believes coverage of a facility under a general WPDES permit is not appropriate, the permittee may apply for issuance of an individual WPDES permit pursuant to section 283.35 (2) and may petition the WDNR for withdrawal of coverage under the general permit. The individual permit application should indicate which site specific factors would justify alternate WPDES limits for the operation. Issuance of such a site specific WPDES permit will provide for a 30 day public comment period, and potentially a public informational hearing and/or an adjudicatory hearing. The WDNR may withdraw a facility from coverage under a general permit if it is determined that a discharge is a significant contributor of pollutants to waters of Wisconsin, or in certain other cases set out in s. 283.35, Stats. In lieu of general permit withdrawal, the WDNR may refer any violation of this permit to the Department of Justice for enforcement under s. 283.89, Stats. In order to avoid any enforcement action, please read the WPDES permit carefully and comply with the permit requirements.

If you believe you have a right to challenge the WDNR's decision to cover this facility with a WPDES general permit, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review WDNR decisions must be filed. To request a contested case hearing pursuant to section 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the WDNR, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Such a petition should identify pollutant(s) that are believed to be not appropriately regulated by the general permit for the specific site. All requests for contested case hearings must be made in accordance with section NR 2.05 (5), Wis. Adm. Code, and served on the Secretary in accordance with section NR 2.03, Wis. Adm. Code. The filing of a request for a contested case hearing is not a prerequisite for judicial review and does not extend the time period for filing a petition for judicial review.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the WDNR, to file your petition with the appropriate circuit court and serve the petition on the WDNR. A petition for judicial review must name the Department of Natural Resources as the respondent.

If you have any questions regarding this letter, please contact either me at 414-263-8607 or
BinyotiAmungwafor@Wisconsin.gov

Sincerely,

A handwritten signature in black ink, appearing to read 'Binyoti F. Amungwafor', written over a horizontal line.

Binyoti F. Amungwafor
Hydrogeologist
Remediation & Redevelopment Program

Cc: M(s). Lanette L. Altenbach, AECOM
Mr. Brian Austin, WDNR DG/5
Mr. Bill Phelps, WDNR DG/5
Case File

Appendix C

Boring Logs, Well Construction, Monitoring Well Development, and Abandonment Forms

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ERD1-TW-NW10	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ERD1-TW-NW10	Final Static Water Level 10 Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "	Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of _____	1/4 of Section _____	T _____ N, R _____	Long _____ ° _____ ' _____ "	Feet _____ Feet _____	
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1 GP	60 38		0	Concrete	Concrete										
				Fill: Gravelly sand, trace silt, tan, moist, loose	Fill			0.0							
2 GP	60 42		2	Silt with little clay, dark grayish black, moist, firm, noncohesive, nonplastic	ML										
				Silty clay, trace fine sand, gray with some light brown mottles, moist, firm, cohesive, low plasticity	CL			0.0							
3 GP	60 52		4	Color transition to lighter gray with brown mottles at 5.0 ft.			CL			0.0					
				Sand, grayish brown, moist to wet, loose, fine grained, poorly graded	SP					0.0					
4 GP	60 57		6	Color becomes gray at 9.5 ft.			SP			0.0					
						0.1									
5 GP	36 36		8		SP			0.0							
								0.1							
			10		SP			0.0							
								0.1							
			12		SP			0.0							
								0.1							
			14		SP			0.0							
								0.1							
			16		SP			0.0							
								0.1							
			18		SP			0.0							
								0.1							
			20		SP			0.0							
								0.1							
			22		SP			0.0							
								0.1							
			22	Silty clay, gray, moist, firm to stiff, cohesive, medium plasticity, trace subrounded gravel	CL										
				End of Boring at 23.0 ft. - Well set at 22.0 ft.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ERD6-TW-NW10	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ERD6-TW-NW10	Final Static Water Level 10 Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
1/4 of	1/4 of Section	T	N, R	Long	Feet
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 GP	60 39		0-2	Concrete	Concrete									
				Fill: Gravelly sand, trace silt, light brown, moist to dry, loose	Fill			0.2						
2 GP	60 36		2-4	Fill: Gravelly sand, whitish gray, moist, loose, possible crushed concrete	Fill			0.2						
				Silty clay, dark brownish gray, moist, firm, cohesive, low plasticity, slight odor at 4.0 ft. Transitions to light tannish gray color at 4.5 ft. with medium brown mottles	CL			1.0						
3 GP	60 30		4-6					5.9						
								1.6						
4 GP	60 56		6-10					2.6						
								0.5						
5 GP	36 36		10-14					0.5						
								0.3						
			14-16					0.2						
								0.6						
			16-18					0.3						
								0.2						
			18-20					0.5						
								0.4						
			20-22	Silty clay, gray, moist, firm to hard, cohesive, medium plasticity	CL									
			22-23	End of Boring at 23.0 ft. - Well set at 22.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Lanette Altenbach* Firm **AECOM** 1555 N RiverCenter Drive Milwaukee, WI 53212 Tel: 414-944-6080 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ERD6-TW-NW15	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method hollow stem auger	
WI Unique Well No.	DNR Well ID No.	Common Well Name ERD6-TW-NW15	Final Static Water Level 15 Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 8.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N	1/4 of Section T N, R		Lat _____ ° _____ ' _____ "	Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	264		0 2 4 6 8 10 12 14 16 18 20 22	Blind Drilled										
				Well set at 22.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Lanette Altenbach* Firm **AECOM** Tel: 414-944-6080
1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ERD8-TW-SW15	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ERD8-TW-SW15	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
1/4 of	1/4 of Section	T	N, R	Long	Feet

Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 GP	60 41		0	Concrete	Concrete									
				Fill: Gravelly sand, tannish brown, moist, loose	Fill									
2 GP	60 50		2	Silty with little clay, black, moist, medium dense/firm, noncohesive, nonplastic	ML			0.7						
				Silty clay, gray, moist, firm, cohesive, medium plasticity	CL			25.2 1300 687						
3 GP	60 40		4	Tannish brown color mottling appears between 4.5-6.5 ft.	CL			161						
				Light gray color between 6.5-8.0 ft.			13.4							
4 GP	60 60		6	Sand, trace silt, gray, moist to wet, loose, fine to medium grained, poorly graded	SP			173						
							2.7							
5 GP	24 24		10					1.1						
							7.4							
5 GP	24 24		12					0.9						
							3.0							
5 GP	24 24		14					1.5						
							0.2							
5 GP	24 24		16					0.6						
5 GP	24 24		18											
5 GP	24 24		20											
5 GP	24 24		22	Silty clay, gray, moist, firm, cohesive, medium plasticity, little subrounded gravel deposits	CL									
				End of Boring at 22.0 ft. - Well set at 22.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO1-TW-SE5	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/13/2016	Date Drilling Completed 9/13/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO1-TW-SE5		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		Feet _____ Feet _____	
Facility ID		County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	228		0 2 4 6 8 10 12 14 16 18	Blind Drilled										
				Well set at 19.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Lanette Altenbach* Firm **AECOM** Tel: 414-944-6080
1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO1-TW-SE7.5	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO1-TW-SE7.5		Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/> State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
1/4 of _____ 1/4 of Section _____, T _____ N, R _____		Long _____ ° _____ ' _____ "		Feet _____ Feet _____	
Facility ID		County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1 GP	60 37		0-2	Concrete	Concrete										
				Fill: Silty sand, some gravel, black, moist, loose, well graded	Fill			0.0							
2 GP	60 46		2-4	Color transition to light brown color. Concrete recovery at 2.25 ft.											
				Color transition to a blackish brown color. Metallic black glass like pieces throughout layer				9.6							
3 GP	60 51		4-6	Silty clay, trace fine sand, dark gray, moist, firm, cohesive, low plasticity	CL										
				Color transition to gray with some orange mottles at 5.0 ft.				0.0							
4 GP	60 60		6-10	Sand, gray, wet, loose, fine to medium grained, poorly graded	SP										
								0.0							
			10-18												
								0.0							
			14-16												
								0.4							
			16-18												
								0.2							
			18-20												
								0.1							
				Silty clay, gray, moist, firm to stiff, cohesive, medium plasticity, trace subrounded gravel	CL										
				End of Boring at 20.0 ft. - Well set at 19.0 ft.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Lanette Altenbach* Firm **AECOM** Tel: 414-944-6080
1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO6-TW-NE5	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO6-TW-NE5	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
1/4 of	1/4 of Section	T N, R	Lat _____ ° _____ ' _____ "	Long _____ ° _____ ' _____ "	
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 GP	60 31		0-2	Concrete	Concrete									
				Fill: Sand, some silt, some gravel, black, loose, some black metallic black sand	Fill			0.0						
2 GP	60 52		4-6	Silty clay, gray, soft to firm, cohesive, low plasticity Color transitions to orangish gray color at 4.5 ft.	CL			0.0						
				Clayey sand seam, fine grained between 7.0 - 7.25 ft.				0.0						
3 GP	60 55		10-12	Sand, gray, wet, loose, fine to medium grained, poorly graded	SP			0.0						
								0.0						
4 GP	60 58		16-18					0.2						
								1.0						
			18-20	Silty clay, gray, cohesive, medium plasticity End of Boring at 20.0 ft. - Well set at 20.0 ft.	CL			0.9						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *Lanette Altenbach* Firm **AECOM** Tel: 414-944-6080
1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO6-TW-NE7.5	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/14/2016	Date Drilling Completed 9/14/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO6-TW-NE7.5	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location
1/4 of	1/4 of Section	T N, R	Long _____ ° _____ ' _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W
Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	240		0 2 4 6 8 10 12 14 16 18 20	Blind Drilled										
				Well set at 20.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

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1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO7-TW-NE10	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental			Date Drilling Started 9/14/2016	Date Drilling Completed 9/14/2016	Drilling Method Geoprobe/HSA
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO7-TW-NE10	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location
1/4 of	1/4 of Section	T N, R	Long _____ ° _____ ' _____ "		Feet <input type="checkbox"/> N <input type="checkbox"/> E Feet <input type="checkbox"/> S <input type="checkbox"/> W

Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
	228		0 2 4 6 8 10 12 14 16 18	Blind Drilled										
				Well set at 19.0 ft.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		License/Permit/Monitoring Number		Boring Number ICO7-TW-SE10	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-Site Environmental		Date Drilling Started 9/12/2016	Date Drilling Completed 9/12/2016	Drilling Method Geoprobe/HSA	
WI Unique Well No.	DNR Well ID No.	Common Well Name ICO7-TW-SE10	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter 4.25
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>	State Plane N, E S/C/N		Lat _____ ° _____ ' _____ "		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W
1/4 of	1/4 of Section	T N, R	Long _____ ° _____ ' _____ "		Feet <input type="checkbox"/> S <input type="checkbox"/> W

Facility ID	County Kenosha	County Code 30	Civil Town/City/ or Village Kenosha
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Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
1 GP	60 30		0	Concrete	Concrete									
				Fill: Gravely sand, trace clay, brown, tan Concrete recovery at 1.5 ft.	Fill			0.0						
2 GP	60 56		4	Color transition to black at 3.5 ft. Silty clay, gray, soft to firm, cohesive, low plasticity, some brown mottles	CL			0.0	1.5	0.5	0.1			
				3 GP	60 55	10	Sand, gray, wet, loose, fine to medium grained, poorly graded	SP			0.0	0.0	0.1	
4 GP	60 58	16	Silty clay, gray, moist, firm to stiff, cohesive, medium plasticity				CL			0.1	14.7	9.4	1.0	
			End of Boring at 20.0 ft. - Well set at 19.0 ft.											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name ICO1-TW-SE5	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>		Wis. Unique Well No. _____ DNR Well Number _____	
Facility ID		Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or		Date Well Installed 09/13/2016	
Type of Well		St. Plane _____ ft. N, _____ ft. E. S/C/N		Well Installed By: (Person's Name and Firm) Tony Kapugi	
Well Code /Groundwater Monitoring Well		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	
Distance from Waste/Source ft.		Gov. Lot Number _____		On-Site Environmental	

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation _____ ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or 0.0 ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 5 0 Hollow Stem Auger <input checked="" type="checkbox"/> 4 1 _____ Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1 Drilling Mud <input type="checkbox"/> 0 3 None <input checked="" type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required): _____</p> </div> <p>E. Bentonite seal, top _____ ft. MSL or 0.50 ft.</p> <p>F. Fine sand, top _____ ft. MSL or 3.00 ft.</p> <p>G. Filter pack, top _____ ft. MSL or 4.00 ft.</p> <p>H. Screen joint, top _____ ft. MSL or 4.00 ft.</p> <p>I. Well bottom _____ ft. MSL or 19.00 ft.</p> <p>J. Filter pack, bottom _____ ft. MSL or 19.00 ft.</p> <p>K. Borehole, bottom _____ ft. MSL or 19.00 ft.</p> <p>L. Borehole, diameter 4.25 in.</p> <p>M. O.D. well casing 2.00 in.</p> <p>N. I.D. well casing 2.00 in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: 12.0 in. b. Length: 1.0 ft. c. Material: Steel <input checked="" type="checkbox"/> 0 4 Other <input type="checkbox"/></p> <p>d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 0 Concrete <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 3 0 Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3 3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 3 1 d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> 5 0 e. 1.25 Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 0 1 Tremie pumped <input type="checkbox"/> 0 2 Gravity <input checked="" type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3 2 c. 1.25 Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. 30/100 b. Volume added 0.25 ft³</p> <p>8. Filter pack material: Manufacturer, product name & mesh size a. #5 to 20 b. Volume added 3 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4 Other <input type="checkbox"/></p> <p>10. Screen material: PVC a. Screen Type: Factory cut <input checked="" type="checkbox"/> 1 1 Continuous slot <input type="checkbox"/> 0 1 Other <input type="checkbox"/> b. Manufacturer Monoflex c. Slot size: 0.100 in. d. Slotted length: _____ ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4 Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.	Well Name ICO1-TW-SE7.5
Facility License, Permit or Monitoring No.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/> Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or	Wis. Unique Well No. _____ DNR Well Number _____
Facility ID	St. Plane _____ ft. N, _____ ft. E. S/C/N	Date Well Installed 09/13/2016
Type of Well Well Code /Groundwater Monitoring Well	Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: (Person's Name and Firm) Tony Kapugi
Distance from Waste/ Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____ On-Site Environmental

A. Protective pipe, top elevation _____ ft. MSL		1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation _____ ft. MSL		2. Protective cover pipe: a. Inside diameter: _____ 12.0 in. b. Length: _____ 1.0 ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> _____ d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____
C. Land surface elevation _____ ft. MSL		3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/> _____
D. Surface seal, bottom _____ ft. MSL or 0.0 ft.		4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 30 Other <input type="checkbox"/> _____
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>		
13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/> _____		
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99		
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____		
17. Source of water (attach analysis, if required): _____		
E. Bentonite seal, top _____ ft. MSL or 0.50 ft.		5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> 50 e. 1.25 Ft ³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
F. Fine sand, top _____ ft. MSL or 3.00 ft.		6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 32 c. 1.25 Other <input type="checkbox"/> _____
G. Filter pack, top _____ ft. MSL or 4.00 ft.		7. Fine sand material: Manufacturer, product name & mesh size a. 30/100 b. Volume added 0.25 ft ³
H. Screen joint, top _____ ft. MSL or 4.00 ft.		8. Filter pack material: Manufacturer, product name & mesh size a. #5 to 20 b. Volume added 3 ft ³
I. Well bottom _____ ft. MSL or 19.00 ft.		9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/> _____
J. Filter pack, bottom _____ ft. MSL or 19.00 ft.		10. Screen material: PVC a. Screen Type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> _____ b. Manufacturer Monoflex c. Slot size: 0.100 in. d. Slotted length: _____ ft.
K. Borehole, bottom _____ ft. MSL or 19.00 ft.		11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/> _____
L. Borehole, diameter 4.25 in.		
M. O.D. well casing 2.00 in.		
N. I.D. well casing 2.00 in.		

I hereby certify that the information on this form is true and correct to the best of my knowledge.
 Signature Lanette Altenbach Firm AECOM Tel: 414-944-6080
 1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name ICO6-TW-NE5	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>		Wis. Unique Well No. _____ DNR Well Number _____	
Facility ID		Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or		Date Well Installed 09/13/2016	
Type of Well		St. Plane _____ ft. N, _____ ft. E. S/C/N		Well Installed By: (Person's Name and Firm) Tony Kapugi	
Well Code /Groundwater Monitoring Well		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W		Gov. Lot Number _____	
Distance from Waste/Source _____ ft.		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		On-Site Environmental	
Enf. Stds. Apply <input type="checkbox"/>					

A. Protective pipe, top elevation _____ ft. MSL
 B. Well casing, top elevation _____ ft. MSL
 C. Land surface elevation _____ ft. MSL
 D. Surface seal, bottom _____ ft. MSL or 0.0 ft.

12. USCS classification of soil near screen:
 GP GM GC GW SW SP
 SM SC ML MH CL CH
 Bedrock

13. Sieve analysis attached? Yes No

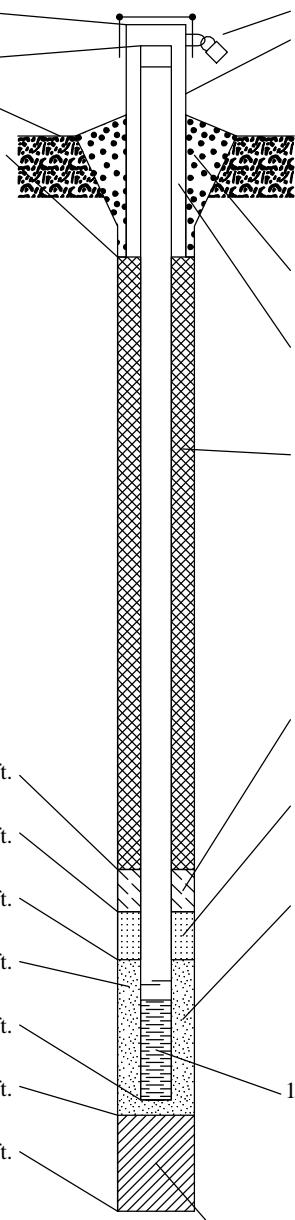
14. Drilling method used: Rotary 5 0
 Hollow Stem Auger 4 1
 _____ Other

15. Drilling fluid used: Water 0 2 Air 0 1
 Drilling Mud 0 3 None 9 9

16. Drilling additives used? Yes No

Describe _____

17. Source of water (attach analysis, if required):



1. Cap and lock? Yes No

2. Protective cover pipe:
 a. Inside diameter: _____ 12.0 in.
 b. Length: _____ 1.0 ft.
 c. Material: Steel 0 4
 Other

d. Additional protection? Yes No
 If yes, describe: _____

3. Surface seal: Bentonite 3 0
 Concrete 0 1
 Other

4. Material between well casing and protective pipe:
 Bentonite 3 0
 Other

5. Annular space seal: a. Granular/Chipped Bentonite 3 3
 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry 3 5
 c. _____ Lbs/gal mud weight . . . Bentonite slurry 3 1
 d. _____ % Bentonite . . . Bentonite-cement grout 5 0
 e. 1.25 Ft³ volume added for any of the above
 f. How installed: Tremie 0 1
 Tremie pumped 0 2
 Gravity 0 8

6. Bentonite seal: a. Bentonite granules 3 3
 b. 1/4 in. 3/8 in. 1/2 in. Bentonite chips 3 2
 c. 1.25 Other

7. Fine sand material: Manufacturer, product name & mesh size
 a. 30/100
 b. Volume added 0.25 ft³

8. Filter pack material: Manufacturer, product name & mesh size
 a. #5 to 20
 b. Volume added 3 ft³

9. Well casing: Flush threaded PVC schedule 40 2 3
 Flush threaded PVC schedule 80 2 4
 Other

10. Screen material: PVC
 a. Screen Type: Factory cut 1 1
 Continuous slot 0 1
 Other
 b. Manufacturer Monoflex
 c. Slot size: 0.100 in.
 d. Slotted length: _____ ft.

11. Backfill material (below filter pack): None 1 4
 Other

E. Bentonite seal, top _____ ft. MSL or 0.50 ft.
 F. Fine sand, top _____ ft. MSL or 3.00 ft.
 G. Filter pack, top _____ ft. MSL or 4.00 ft.
 H. Screen joint, top _____ ft. MSL or 4.00 ft.
 I. Well bottom _____ ft. MSL or 19.00 ft.
 J. Filter pack, bottom _____ ft. MSL or 19.00 ft.
 K. Borehole, bottom _____ ft. MSL or 19.00 ft.
 L. Borehole, diameter 4.25 in.
 M. O.D. well casing 2.00 in.
 N. I.D. well casing 2.00 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Lanette Altenbach Firm AECOM Tel: 414-944-6080
 1555 N RiverCenter Drive Milwaukee, WI 53212 Fax: 414-944-6081

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name ICO6-TW-NE7.5	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>		Wis. Unique Well No. _____ DNR Well Number _____	
Facility ID		Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or		Date Well Installed 09/14/2016	
Type of Well		St. Plane _____ ft. N, _____ ft. E. S/C/N		Well Installed By: (Person's Name and Firm) Tony Kapugi	
Well Code /Groundwater Monitoring Well		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W		On-Site Environmental	
Distance from Waste/Source _____ ft.		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
Enf. Stds. Apply <input type="checkbox"/>					

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation _____ ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or 0.0 ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 5 0 Hollow Stem Auger <input checked="" type="checkbox"/> 4 1 _____ Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1 Drilling Mud <input type="checkbox"/> 0 3 None <input checked="" type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required): _____</p> </div> <p>E. Bentonite seal, top _____ ft. MSL or 0.50 ft.</p> <p>F. Fine sand, top _____ ft. MSL or 4.00 ft.</p> <p>G. Filter pack, top _____ ft. MSL or 5.00 ft.</p> <p>H. Screen joint, top _____ ft. MSL or 5.00 ft.</p> <p>I. Well bottom _____ ft. MSL or 20.00 ft.</p> <p>J. Filter pack, bottom _____ ft. MSL or 20.00 ft.</p> <p>K. Borehole, bottom _____ ft. MSL or 20.00 ft.</p> <p>L. Borehole, diameter 4.25 in.</p> <p>M. O.D. well casing 2.00 in.</p> <p>N. I.D. well casing 2.00 in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: 12.0 in. b. Length: 1.0 ft. c. Material: Steel <input checked="" type="checkbox"/> 0 4 Other <input type="checkbox"/> d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 0 Concrete <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 3 0 Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3 3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 3 1 d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> 5 0 e. 1.25 Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 0 1 Tremie pumped <input type="checkbox"/> 0 2 Gravity <input checked="" type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3 2 c. 1.25 Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. 30/100 b. Volume added 0.25 ft³</p> <p>8. Filter pack material: Manufacturer, product name & mesh size a. #5 to 20 b. Volume added 3 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4 Other <input type="checkbox"/></p> <p>10. Screen material: PVC a. Screen Type: Factory cut <input checked="" type="checkbox"/> 1 1 Continuous slot <input type="checkbox"/> 0 1 Other <input type="checkbox"/> b. Manufacturer Monoflex c. Slot size: 0.100 in. d. Slotted length: _____ ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4 Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name ICO7-TW-NE10	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>		Wis. Unique Well No. _____ DNR Well Number _____	
Facility ID		Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or		Date Well Installed 09/14/2016	
Type of Well		St. Plane _____ ft. N, _____ ft. E. S/C/N		Well Installed By: (Person's Name and Firm) Tony Kapugi	
Well Code /Groundwater Monitoring Well		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W		On-Site Environmental	
Distance from Waste/Source _____ ft.		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known		Gov. Lot Number _____	
Enf. Stds. Apply <input type="checkbox"/>					

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation _____ ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or 0.0 ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 5 0 Hollow Stem Auger <input checked="" type="checkbox"/> 4 1 _____ Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1 Drilling Mud <input type="checkbox"/> 0 3 None <input checked="" type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required): _____</p> </div> <p>E. Bentonite seal, top _____ ft. MSL or 0.50 ft.</p> <p>F. Fine sand, top _____ ft. MSL or 3.00 ft.</p> <p>G. Filter pack, top _____ ft. MSL or 4.00 ft.</p> <p>H. Screen joint, top _____ ft. MSL or 4.00 ft.</p> <p>I. Well bottom _____ ft. MSL or 19.00 ft.</p> <p>J. Filter pack, bottom _____ ft. MSL or 19.00 ft.</p> <p>K. Borehole, bottom _____ ft. MSL or 19.00 ft.</p> <p>L. Borehole, diameter 4.25 in.</p> <p>M. O.D. well casing 2.00 in.</p> <p>N. I.D. well casing 2.00 in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: 12.0 in. b. Length: 1.0 ft. c. Material: Steel <input checked="" type="checkbox"/> 0 4 Other <input type="checkbox"/> d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 0 Concrete <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 3 0 Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3 3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 3 1 d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> 5 0 e. 1.25 Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 0 1 Tremie pumped <input type="checkbox"/> 0 2 Gravity <input checked="" type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3 2 c. 1.25 Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. 30/100 b. Volume added 0.25 ft³</p> <p>8. Filter pack material: Manufacturer, product name & mesh size a. #5 to 20 b. Volume added 3 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4 Other <input type="checkbox"/></p> <p>10. Screen material: PVC a. Screen Type: Factory cut <input checked="" type="checkbox"/> 1 1 Continuous slot <input type="checkbox"/> 0 1 Other <input type="checkbox"/> b. Manufacturer Monoflex c. Slot size: 0.100 in. d. Slotted length: _____ ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4 Other <input type="checkbox"/></p>
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Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP		Local Grid Location of Well _____ ft. <input type="checkbox"/> N. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> W.		Well Name ICO7-TW-SE10	
Facility License, Permit or Monitoring No.		Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Well Location <input type="checkbox"/>		Wis. Unique Well No. _____ DNR Well Number _____	
Facility ID		Lat. _____ ° _____ ' _____ " Long. _____ ° _____ ' _____ " or		Date Well Installed 09/13/2016	
Type of Well		St. Plane _____ ft. N, _____ ft. E. S/C/N		Well Installed By: (Person's Name and Firm) Tony Kapugi	
Well Code /Groundwater Monitoring Well		Section Location of Waste/Source _____ 1/4 of _____ 1/4 of Sec. _____, T. _____ N, R. _____ <input type="checkbox"/> E <input type="checkbox"/> W		Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	
Distance from Waste/Source _____ ft.		Gov. Lot Number _____		On-Site Environmental	

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation _____ ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or 0.0 ft.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 5 0 Hollow Stem Auger <input checked="" type="checkbox"/> 4 1 _____ Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1 Drilling Mud <input type="checkbox"/> 0 3 None <input checked="" type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required): _____</p> </div> <p>E. Bentonite seal, top _____ ft. MSL or 0.50 ft.</p> <p>F. Fine sand, top _____ ft. MSL or 3.00 ft.</p> <p>G. Filter pack, top _____ ft. MSL or 4.00 ft.</p> <p>H. Screen joint, top _____ ft. MSL or 4.00 ft.</p> <p>I. Well bottom _____ ft. MSL or 19.00 ft.</p> <p>J. Filter pack, bottom _____ ft. MSL or 19.00 ft.</p> <p>K. Borehole, bottom _____ ft. MSL or 19.00 ft.</p> <p>L. Borehole, diameter 4.25 in.</p> <p>M. O.D. well casing 2.00 in.</p> <p>N. I.D. well casing 2.00 in.</p>		<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe: a. Inside diameter: 12.0 in. b. Length: 1.0 ft. c. Material: Steel <input checked="" type="checkbox"/> 0 4 Other <input type="checkbox"/> d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input type="checkbox"/> 3 0 Concrete <input checked="" type="checkbox"/> 0 1 Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 3 0 Other <input type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3 3 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 3 1 d. _____ % Bentonite . . . Bentonite-cement grout <input type="checkbox"/> 5 0 e. 1.25 Ft³ volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 0 1 Tremie pumped <input type="checkbox"/> 0 2 Gravity <input checked="" type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3 2 c. 1.25 Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name & mesh size a. 30/100 b. Volume added 0.25 ft³</p> <p>8. Filter pack material: Manufacturer, product name & mesh size a. #5 to 20 b. Volume added 3 ft³</p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 3 Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4 Other <input type="checkbox"/></p> <p>10. Screen material: PVC a. Screen Type: Factory cut <input checked="" type="checkbox"/> 1 1 Continuous slot <input type="checkbox"/> 0 1 Other <input type="checkbox"/> b. Manufacturer Monoflex c. Slot size: 0.100 in. d. Slotted length: _____ ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4 Other <input type="checkbox"/></p>
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I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Lanette Altenbach</i>	Firm AECOM 1555 N RiverCenter Drive Milwaukee, WI 53212	Tel: 414-944-6080 Fax: 414-944-6081
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Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ERD1-TW-NW10	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
 - surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **76 min.**
4. Depth of well (from top of well casing) **21.8 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **11.9 gal.**
7. Volume of water removed from well **60.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	9.32 ft.	9.38 ft.
Date	b.	9/13/2016	9/13/2016
Time	c.	12:20 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	01:36 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.1 inches	inches
13. Water clarity (Describe)	Clear	<input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid	<input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
		<u>Dark grayish brown, many fines</u>	<u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
		Andrew Pirrung	
		AECOM	

17. Additional comments on development:
 Surged and purged with submersible pump.
 $21.70 - 9.32 \times 0.963 = 11.92$
 Beg DTW - Beg DTW + 0.936 = vol. in filter pack 1 well

Facility Address or Owner/Responsible Party Address Name: _____ Firm: <u>AECOM</u> Street: <u>1555 N RiverCenter Drive</u> City/State/Zip: <u>Milwaukee, WI 53212</u>	I hereby certify that the above information is true and correct to the best of my knowledge. Signature: <u>Lanette Altenbach</u> Print Name: _____ Firm: <u>AECOM</u>
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NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ERD6-TW-NW10
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other
3. Time spent developing well **79 min.**
4. Depth of well (from top of well casing) **21.5 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **11.0 gal.**
7. Volume of water removed from well **47.0 gal.**
8. Volume of water added (if any) **gal.**
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 10.06 ft.	10.09 ft.
Date	b. 9/13/2016	9/13/2016
Time	c. 08:01 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	09:20 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	0.8 inches	inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) <u>Dark chocolate colored brown, many fines</u>	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) <u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l
16. Well developed by: Person's Name and Firm		
Andrew Pirrung AECOM		

17. Additional comments on development:
Surged and purged with submersible pump.
 $20.73 - 10.06 \times 0.963 = 11.04$

Facility Address or Owner/Responsible Party Address	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: _____	Signature: <u>Lanette Altenbach</u>
Firm: <u>AECOM</u>	Print Name: _____
Street: <u>1555 N RiverCenter Drive</u>	Firm: <u>AECOM</u>
City/State/Zip: <u>Milwaukee, WI 53212</u>	

NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ERD6-TW-NW15	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with bailer and pumped	<input type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed, and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input type="checkbox"/>	1 0
pumped only	<input checked="" type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
other _____	<input type="checkbox"/>	
3. Time spent developing well **53 min.**
4. Depth of well (from top of well casing) **21.9 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **11.2 gal.**
7. Volume of water removed from well **59.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 10.14 ft.	10.22 ft.
Date	b. 9/12/2016	9/13/2016
Time	c. 12:52 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	10:00 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	0.1 inches	inches
13. Water clarity (Describe)	Clear <input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid <input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
	<u>Dark grayish brown color, turbid</u>	<u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l
16. Well developed by: Person's Name and Firm		
Andrew Pirrung		
AECOM		

17. Additional comments on development:
 Surged and purged with submersible pump.
 21.74 - 10.13 x 0.963
 Beg DTB - Beg DTW x 0.963 = water in filter pack/well bottom
 Surged and purged 9/12/16 from 1252 - 1330. Returned 9/13/16 to purge and take GW parameters from 0945 - 1000

Facility Address or Owner/Responsible Party Address Name: _____ Firm: <u>AECOM</u> Street: <u>1555 N RiverCenter Drive</u> City/State/Zip: <u>Milwaukee, WI 53212</u>	I hereby certify that the above information is true and correct to the best of my knowledge. Signature: <u>Lanette Altenbach</u> Print Name: _____ Firm: <u>AECOM</u>
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NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ERD8-TW-SW15	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **74 min.**
4. Depth of well (from top of well casing) **22.1 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **12.1 gal.**
7. Volume of water removed from well **58.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 4.46 ft.	9.48 ft.
Date	b. 9/13/2016	9/13/2016
Time	c. 10:25 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	11:39 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	0.1 inches	inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) <u>Dark grayish brown, many fines</u>	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) <u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	mg/l	mg/l
15. COD	mg/l	mg/l
16. Well developed by: Person's Name and Firm		
Zach Alberts AECOM		

17. Additional comments on development:
Surged and purged with submersible pump.
 $21.99 - 9.46 \times 0.963 = 12.07$

Facility Address or Owner/Responsible Party Address	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: _____	Signature: <u>Lanette Altenbach</u>
Firm: <u>AECOM</u>	Print Name: _____
Street: <u>1555 N RiverCenter Drive</u>	Firm: <u>AECOM</u>
City/State/Zip: <u>Milwaukee, WI 53212</u>	

NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO1-TW-SE5	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
 - surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **49 min.**
4. Depth of well (from top of well casing) **17.7 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **9.5 gal.**
7. Volume of water removed from well **40.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.39 ft.	8.42 ft.
Date	b.	9/13/2016	9/13/2016
Time	c.	02:59 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	03:48 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.2 inches	inches
13. Water clarity (Describe)	Clear	<input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid	<input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
		<u>Dark grayish brown, turbid, many fines</u>	<u>Clear, few fines</u>
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
		Andrew Pirrung	
		AECOM	

17. Additional comments on development:
 Surged and purged with submersible pump
 $17.42 - 8.39 \times 0.963 = 9.47$
 Beg. DTB - Beg DTW x 0.963 = water volume in FP + well

Facility Address or Owner/Responsible Party Address Name: _____ Firm: <u>AECOM</u> Street: <u>1555 N RiverCenter Drive</u> City/State/Zip: <u>Milwaukee, WI 53212</u>	I hereby certify that the above information is true and correct to the best of my knowledge. Signature: <u>Lanette Altenbach</u> Print Name: _____ Firm: <u>AECOM</u>
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NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO1-TW-SE7.5
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
 - surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **58 min.**
4. Depth of well (from top of well casing) **19.1 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **10.5 gal.**
7. Volume of water removed from well **48.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.11 ft.	8.17 ft.
Date	b.	9/13/2016	9/13/2016
Time	c.	01:58 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	02:56 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity (Describe)	Clear	<input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid	<input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
		<u>Dark brown to gray, turbid, many fines</u>	<u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
Zach Alberts AECOM			

17. Additional comments on development:
 Surged and purged with submersible pump
 $19.05 - 8.11 \times 0.963 = 10.54$
 $DTB - DTW \times 0.963 = \text{well volume in filter pack}$

Facility Address or Owner/Responsible Party Address Name: _____ Firm: <u>AECOM</u> Street: <u>1555 N RiverCenter Drive</u> City/State/Zip: <u>Milwaukee, WI 53212</u>	I hereby certify that the above information is true and correct to the best of my knowledge. Signature: <u>Lanette Altenbach</u> Print Name: _____ Firm: <u>AECOM</u>
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NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO6-TW-NE5
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other
3. Time spent developing well **67 min.**
4. Depth of well (from top of well casing) **19.8 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **12.3 gal.**
7. Volume of water removed from well **55.0 gal.**
8. Volume of water added (if any) **gal.**
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 8.31 ft.	8.33 ft.
Date	b. 9/14/2016	9/14/2016
Time	c. 07:32 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	08:39 <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
12. Sediment in well bottom	0.5 inches	inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) <u>Dark brown to gray, turbid, many fines</u>	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) <u>Clear</u>

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids mg/l mg/l

15. COD mg/l mg/l

16. Well developed by: Person's Name and Firm
Andrew Pirrung
AECOM

17. Additional comments on development:
Surged and purged with submersible pump
 $19.29 - 8.31 \times 0.963 = 12.28$
Beg DTB - Beg DTW $\times 0.963 =$ Water volume in FP + well

Facility Address or Owner/Responsible Party Address	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: _____	Signature: <u>Lanette Altenbach</u>
Firm: <u>AECOM</u>	Print Name: _____
Street: <u>1555 N RiverCenter Drive</u>	Firm: <u>AECOM</u>
City/State/Zip: <u>Milwaukee, WI 53212</u>	

NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO6-TW-NE7.5	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **58 min.**
4. Depth of well (from top of well casing) **20.3 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **11.5 gal.**
7. Volume of water removed from well **50.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.35 ft.	8.35 ft.
Date	b.	9/14/2016	9/14/2016
Time	c.	12:05 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	01:03 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity (Describe)	Clear <input type="checkbox"/> 1 0	Clear	<input checked="" type="checkbox"/> 2 0
	Turbid <input checked="" type="checkbox"/> 1 5	<u>Dark brownish gray, turbid</u>	Turbid <input type="checkbox"/> 2 5
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
Zach Alberts			
AECOM			

17. Additional comments on development:
Surged and purged with submersible pump
20.24 - 8.35 x 0.963 = 11.45 water volume in FP + well

Facility Address or Owner/Responsible Party Address	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: _____	Signature: <u>Lanette Altenbach</u>
Firm: <u>AECOM</u>	Print Name: _____
Street: <u>1555 N RiverCenter Drive</u>	Firm: <u>AECOM</u>
City/State/Zip: <u>Milwaukee, WI 53212</u>	

NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO7-TW-NE10	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:
- surged with bailer and bailed 4 1
 - surged with bailer and pumped 6 1
 - surged with block and bailed 4 2
 - surged with block and pumped 6 2
 - surged with block, bailed, and pumped 7 0
 - compressed air 2 0
 - bailed only 1 0
 - pumped only 5 1
 - pumped slowly 5 0
 - other _____
3. Time spent developing well **45 min.**
4. Depth of well (from top of well casing) **19.1 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **10.5 gal.**
7. Volume of water removed from well **41.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.23 ft.	8.23 ft.
Date	b.	9/13/2016	9/13/2016
Time	c.	03:59 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	04:44 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity (Describe)	Clear	<input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid	<input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
		<u>Dark brownish gray, turbid, many fines</u>	<u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
		Andrew Pirrung	
		AECOM	

17. Additional comments on development:
Purged and surged with submersible pump
19.10 - 8.23 x 0.963 = water volume in well + FP 10.47
Beg DTB - Beg DTW x 0.963

Facility Address or Owner/Responsible Party Address	I hereby certify that the above information is true and correct to the best of my knowledge.
Name: _____	Signature: <u>Lanette Altenbach</u>
Firm: <u>AECOM</u>	Print Name: _____
Street: <u>1555 N RiverCenter Drive</u>	Firm: <u>AECOM</u>
City/State/Zip: <u>Milwaukee, WI 53212</u>	

NOTE: See instructions for more information including a list of county codes and well type codes.

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

Facility/Project Name KEP	County Kenosha	Well Name ICO7-TW-SE10	
Facility License, Permit or Monitoring Number	County Code 30	Wis. Unique Well Number	DNR Well Number

1. Can this well be purged dry? Yes No
2. Well development method:

surged with bailer and bailed	<input type="checkbox"/> 4 1
surged with bailer and pumped	<input type="checkbox"/> 6 1
surged with block and bailed	<input type="checkbox"/> 4 2
surged with block and pumped	<input type="checkbox"/> 6 2
surged with block, bailed, and pumped	<input type="checkbox"/> 7 0
compressed air	<input type="checkbox"/> 2 0
bailed only	<input type="checkbox"/> 1 0
pumped only	<input checked="" type="checkbox"/> 5 1
pumped slowly	<input type="checkbox"/> 5 0
other _____	<input type="checkbox"/>
3. Time spent developing well **51 min.**
4. Depth of well (from top of well casing) **19.3 ft.**
5. Inside diameter of well **2.00 in.**
6. Volume of water in filter pack and well casing **10.6 gal.**
7. Volume of water removed from well **55.0 gal.**
8. Volume of water added (if any) _____ gal.
9. Source of water added _____
10. Analysis performed on water added? Yes No
(If yes, attach results)

		Before Development	After Development
11. Depth to Water (from top of well casing)	a.	8.26 ft.	8.26 ft.
Date	b.	9/14/2016	9/14/2016
Time	c.	01:09 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	02:00 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom		0.0 inches	inches
13. Water clarity (Describe)	Clear	<input type="checkbox"/> 1 0	Clear <input checked="" type="checkbox"/> 2 0
	Turbid	<input checked="" type="checkbox"/> 1 5	Turbid <input type="checkbox"/> 2 5
		<u>Dark grayish brown, turbid, many fines</u>	<u>Clear</u>
Fill in if drilling fluids were used and well is at solid waste facility:			
14. Total suspended solids		mg/l	mg/l
15. COD		mg/l	mg/l
16. Well developed by: Person's Name and Firm			
		Andrew Pirrung	
		AECOM	

17. Additional comments on development:
 Surged and purged with submersible pump
 19.27 - 8.26 x 0.963
 Beg DTB - Beg DTW x 0.963 = water volume in filter pack and casing

Facility Address or Owner/Responsible Party Address Name: _____ Firm: <u>AECOM</u> Street: <u>1555 N RiverCenter Drive</u> City/State/Zip: <u>Milwaukee, WI 53212</u>	I hereby certify that the above information is true and correct to the best of my knowledge. Signature: <u>Lanette Altenbach</u> Print Name: _____ Firm: <u>AECOM</u>
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NOTE: See instructions for more information including a list of county codes and well type codes.

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other _____

1. Well Location Information **2. Facility / Owner Information**

County Kenosha	WI Unique Well # of Removed Well IC01-TW-SE5	Hicap #	Facility Name KEP		
Latitude / Longitude (Degrees and Minutes) ° ' " ' W ° ' " ' N		Method Code (see instructions)	Facility ID (FID or PWS)		
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	License/Permit/Monitoring #
or Gov't Lot #		Original Well Owner			Present Well Owner
Well Street Address					Mailing Address of Present Owner
Well City, Village or Town Kenosha			Well ZIP Code		
Subdivision Name			Lot #	City of Present Owner	State ZIP Code

3. Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

Reason For Removal From Service Pilot Test Complete	WI Unique Well # of Replacement Well	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole		Original Construction Date 9/13/2016	Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured <input type="checkbox"/> Other (Explain) (Bentonite Chips)		
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		If a Well Construction Report is available, please attach.	Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Chips		
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	Total Well Depth From Ground Surface (ft) 19.00	Casing Diameter (in.) 2.00	For Monitoring Wells and Monitoring Well Boreholes Only: <input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry		
Lower Drillhole Diameter (in.)	Casing Depth (ft.)	Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown If yes, to what depth (feet)? Depth to Water (feet)			

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	19.0	0.5	

6. Comments

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert		License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080		Comments	
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	Date Signed 3-20-17	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other _____

1. Well Location Information **2. Facility / Owner Information**

County Kenosha	WI Unique Well # of Removed Well IC01-TW-SE7.5	Hicap #	Facility Name KEP		
Latitude / Longitude (Degrees and Minutes) ° ' " ' W ° ' " ' N		Method Code (see instructions)		Facility ID (FID or PWS)	
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	License/Permit/Monitoring #
or Gov't Lot #			Original Well Owner		
Well Street Address			Present Well Owner		
Well City, Village or Town Kenosha			Mailing Address of Present Owner		
Subdivision Name		Well ZIP Code		City of Present Owner	State ZIP Code
Reason For Removal From Service Pilot Test Complete		WI Unique Well # of Replacement Well			

3. Well / Drillhole / Borehole Information

<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole	Original Construction Date 9/13/2016 If a Well Construction Report is available, please attach.
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	
Total Well Depth From Ground Surface (ft) 19.00	Casing Diameter (in.) 2.00
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown If yes, to what depth (feet)? Depth to Water (feet)	

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Screen removed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Required Method of Placing Sealing Material			
<input checked="" type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped		
<input type="checkbox"/> Screened & Poured	<input type="checkbox"/> Other (Explain)		
(Bentonite Chips)			
Sealing Materials			
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)		
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "		
<input type="checkbox"/> Concrete	<input type="checkbox"/> Bentonite Chips		
For Monitoring Wells and Monitoring Well Boreholes Only:			
<input checked="" type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout		
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry		

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	19.0	0.5	

6. Comments

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert	License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080	Comments	
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	Date Signed 3-20-17

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

<input type="checkbox"/> Verification Only of Fill and Seal	Route to: <input type="checkbox"/> Drinking Water <input type="checkbox"/> Watershed/Wastewater <input checked="" type="checkbox"/> Remediation/Redevelopment <input type="checkbox"/> Waste Management <input type="checkbox"/> Other _____
---	---

1. Well Location Information	2. Facility / Owner Information
------------------------------	---------------------------------

County Kenosha	WI Unique Well # of Removed Well ICO6-TW-NE5	Hicap #	Facility Name KEP	
Latitude / Longitude (Degrees and Minutes) ° ' " ' W ° ' " ' N		Method Code (see instructions)		
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W
or Gov't Lot #		Original Well Owner		
Well Street Address		Present Well Owner		
Well City, Village or Town Kenosha		Mailing Address of Present Owner		
Subdivision Name		Well ZIP Code	City of Present Owner	State ZIP Code
Reason For Removal From Service Pilot Test Complete		WI Unique Well # of Replacement Well		

3. Well / Drillhole / Borehole Information	4. Pump, Liner, Screen, Casing & Sealing Material
--	---

<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole	Original Construction Date 9/13/2016 If a Well Construction Report is available, please attach.	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured <input type="checkbox"/> Other (Explain) (Bentonite Chips)	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Chips	
Total Well Depth From Ground Surface (ft) 19.00		Casing Diameter (in.) 2.00	
Lower Drillhole Diameter (in.)		Casing Depth (ft.)	
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown		For Monitoring Wells and Monitoring Well Boreholes Only: <input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry	
If yes, to what depth (feet)?		Depth to Water (feet)	

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	19.0	0.5	

6. Comments

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7. Supervision of Work	DNR Use Only
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Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert	License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080		Comments
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	
			Date Signed 3-20-17	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other _____

1. Well Location Information **2. Facility / Owner Information**

County Kenosha	WI Unique Well # of Removed Well ICO6-TW-NE7.5	Hicap #	Facility Name KEP		
Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)			
° ' " ' W	° ' " ' N				
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	Original Well Owner
or Gov't Lot #		Present Well Owner			
Well Street Address					Mailing Address of Present Owner
Well City, Village or Town Kenosha			Well ZIP Code		
Subdivision Name			Lot #	City of Present Owner	State ZIP Code

3. Well / Drillhole / Borehole Information **4. Pump, Liner, Screen, Casing & Sealing Material**

Reason For Removal From Service Pilot Test Complete	WI Unique Well # of Replacement Well	Pump and piping removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Liner(s) removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Screen removed? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Casing left in place? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A Was casing cut off below surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A Did sealing material rise to surface? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Did material settle after 24 hours? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A If yes, was hole retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A If bentonite chips were used, were they hydrated with water from a known safe source <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A			
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole		Original Construction Date 9/14/2016 If a Well Construction Report is available, please attach.			
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____					
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock					
Total Well Depth From Ground Surface (ft) 20.00		Casing Diameter (in.) 2.00			
Lower Drillhole Diameter (in.)		Casing Depth (ft.)			
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown If yes, to what depth (feet)? Depth to Water (feet)					
Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Screened & Poured <input type="checkbox"/> Other (Explain) (Bentonite Chips)					
Sealing Materials <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.) <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Bentonite-Sand Slurry " " <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Chips					
For Monitoring Wells and Monitoring Well Boreholes Only: <input checked="" type="checkbox"/> Bentonite Chips <input type="checkbox"/> Bentonite - Cement Grout <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite - Sand Slurry					

5. Material Used to Fill Well / Drillhole	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	20.0	0.5	

6. Comments

7. Supervision of Work				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert		License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080		Comments	
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	Date Signed 3-20-17	

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other _____

1. Well Location Information **2. Facility / Owner Information**

County Kenosha	WI Unique Well # of Removed Well ICO7-TW-NE10	Hicap #	Facility Name KEP		
Latitude / Longitude (Degrees and Minutes) ° ' " ' W ° ' " ' N		Method Code (see instructions)		Facility ID (FID or PWS)	
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W	License/Permit/Monitoring #
or Gov't Lot #			Original Well Owner		
Well Street Address			Present Well Owner		
Well City, Village or Town Kenosha			Mailing Address of Present Owner		
Subdivision Name		Well ZIP Code		City of Present Owner	State ZIP Code
Reason For Removal From Service Pilot Test Complete		WI Unique Well # of Replacement Well			

3. Well / Drillhole / Borehole Information

<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole	Original Construction Date 9/14/2016 If a Well Construction Report is available, please attach.
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	
Total Well Depth From Ground Surface (ft) 19.00	Casing Diameter (in.) 2.00
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown If yes, to what depth (feet)? Depth to Water (feet)	

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Screen removed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Required Method of Placing Sealing Material			
<input checked="" type="checkbox"/> Conductor Pipe-Gravity		<input type="checkbox"/> Conductor Pipe-Pumped	
<input type="checkbox"/> Screened & Poured		<input type="checkbox"/> Other (Explain)	
(Bentonite Chips)			
Sealing Materials			
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)		
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "		
<input type="checkbox"/> Concrete	<input type="checkbox"/> Bentonite Chips		
For Monitoring Wells and Monitoring Well Boreholes Only:			
<input checked="" type="checkbox"/> Bentonite Chips		<input type="checkbox"/> Bentonite - Cement Grout	
<input type="checkbox"/> Granular Bentonite		<input type="checkbox"/> Bentonite - Sand Slurry	

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	19.0	0.5	

6. Comments

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert	License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080	Comments	
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	Date Signed 3-20-17

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return this form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other _____

1. Well Location Information **2. Facility / Owner Information**

County Kenosha	WI Unique Well # of Removed Well ICO7-TW-SE10	Hicap #	Facility Name KEP	
Latitude / Longitude (Degrees and Minutes)		Method Code (see instructions)		
° ' " ' W	° ' " ' N	License/Permit/Monitoring #		
1/4 / 1/4	1/4	Section	Township	Range <input type="checkbox"/> E <input type="checkbox"/> W
or Gov't Lot #		Original Well Owner		
Well Street Address		Present Well Owner		
Well City, Village or Town Kenosha		Mailing Address of Present Owner		
Subdivision Name		Well ZIP Code	City of Present Owner	State ZIP Code
Reason For Removal From Service Pilot Test Complete		WI Unique Well # of Replacement Well		

3. Well / Drillhole / Borehole Information

<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Drillhole / Borehole	Original Construction Date 9/13/2016 If a Well Construction Report is available, please attach.
Construction Type: <input checked="" type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	
Total Well Depth From Ground Surface (ft) 19.00	Casing Diameter (in.) 2.00
Lower Drillhole Diameter (in.)	Casing Depth (ft.)
Was well annular space grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown If yes, to what depth (feet)? Depth to Water (feet)	

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Liner(s) removed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Screen removed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Casing left in place?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Was casing cut off below surface?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Did sealing material rise to surface?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Did material settle after 24 hours?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
If yes, was hole retopped?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
If bentonite chips were used, were they hydrated with water from a known safe source	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Required Method of Placing Sealing Material			
<input checked="" type="checkbox"/> Conductor Pipe-Gravity	<input type="checkbox"/> Conductor Pipe-Pumped		
<input type="checkbox"/> Screened & Poured	<input type="checkbox"/> Other (Explain)		
(Bentonite Chips)			
Sealing Materials			
<input type="checkbox"/> Neat Cement Grout	<input type="checkbox"/> Clay-Sand Slurry (11 lb./gal. wt.)		
<input type="checkbox"/> Sand-Cement (Concrete) Grout	<input type="checkbox"/> Bentonite-Sand Slurry " "		
<input type="checkbox"/> Concrete	<input type="checkbox"/> Bentonite Chips		
For Monitoring Wells and Monitoring Well Boreholes Only:			
<input checked="" type="checkbox"/> Bentonite Chips	<input type="checkbox"/> Bentonite - Cement Grout		
<input type="checkbox"/> Granular Bentonite	<input type="checkbox"/> Bentonite - Sand Slurry		

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Bentonite	Surface	19.0	0.5	

6. Comments

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing AECOM - Zach Albert	License #	Date of Filling & Sealing (mm/dd/yyyy) 4/7/2017	Date Received	Noted By
Street or Route 1555 N River Center Drive		Telephone Number 414-944-6080	Comments	
City Milwaukee	State WI	ZIP Code 53212	Signature of Person Doing Work Zach Albert	Date Signed 3-20-17

Appendix D

Groundwater Laboratory Analytical Reports

October 12, 2016

Lanette Altenbach
AECOM, Inc.- Milwaukee
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60518412.1 KEP
Pace Project No.: 40139248

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christopher Hyska
christopher.hyska@pacelabs.com
Project Manager

Enclosures

cc: Ken Brown, AECOM, Inc. - MILWAUKEE
Sarah Engelhardt, AECOM, Inc. - Milwaukee



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

Virginia VELAP ID: 460263

North Dakota Certification #: R-150

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

US Dept of Agriculture #: S-76505

Virginia VELAP ID: 460263

Virginia VELAP Certification ID: 460263

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

SAMPLE SUMMARY

Project: 60518412.1 KEP

Pace Project No.: 40139248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40139248001	CS3-MW-302	Water	09/23/16 11:14	09/29/16 13:50
40139248002	ICO1-TW-SE7.5-BOS	Water	09/23/16 11:19	09/29/16 13:50
40139248003	ICO1-TW-SE7.5-TOS	Water	09/23/16 11:31	09/29/16 13:50
40139248004	CS3-PZ-302	Water	09/23/16 12:25	09/29/16 13:50
40139248005	ICO1-TW-SE5-TOS	Water	09/23/16 12:35	09/29/16 13:50
40139248006	ICO1-TW-SE5-BOS	Water	09/23/16 12:49	09/29/16 13:50
40139248007	ICO6-TW-NE7.5-TOS	Water	09/23/16 14:02	09/29/16 13:50
40139248008	ICO6-TW-NE7.5-BOS	Water	09/23/16 14:13	09/29/16 13:50
40139248009	ICO6-TW-NE5-TOS	Water	09/23/16 15:32	09/29/16 13:50
40139248010	ICO6-TW-NE5-BOS	Water	09/23/16 15:17	09/29/16 13:50
40139248011	CS3-PZ-317	Water	09/23/16 15:40	09/29/16 13:50
40139248012	CS3-MW-317	Water	09/26/16 09:00	09/29/16 13:50
40139248013	ICO7-TW-SE10-TOS	Water	09/26/16 09:29	09/29/16 13:50
40139248014	ICO7-TW-SE10-TOS-DUP	Water	09/26/16 09:29	09/29/16 13:50
40139248015	ICO7-TW-NE10-TOS	Water	09/26/16 10:39	09/29/16 13:50
40139248016	ICO7-TW-NE10-BOS	Water	09/26/16 10:49	09/29/16 13:50
40139248017	ICO7-TW-SE10-BOS	Water	09/26/16 09:17	09/29/16 13:50
40139248018	CS3-PZ-354	Water	09/26/16 10:00	09/29/16 13:50
40139248019	CS3-MW-354	Water	09/26/16 11:00	09/29/16 13:50
40139248020	CS3-MW-354 DUP	Water	09/26/16 11:00	09/29/16 13:50
40139248021	TRIP BLANK-ISCO	Water	09/23/16 08:00	09/29/16 13:50

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 60518412.1 KEP

Pace Project No.: 40139248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40139248001	CS3-MW-302	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248002	ICO1-TW-SE7.5-BOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248003	ICO1-TW-SE7.5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248004	CS3-PZ-302	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248005	ICO1-TW-SE5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248006	ICO1-TW-SE5-BOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248007	ICO6-TW-NE7.5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248008	ICO6-TW-NE7.5-BOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G

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SAMPLE ANALYTE COUNT

Project: 60518412.1 KEP

Pace Project No.: 40139248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40139248009	ICO6-TW-NE5-TOS	EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
40139248010	ICO6-TW-NE5-BOS	EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248011	CS3-PZ-317	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40139248012	CS3-MW-317	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
40139248013	ICO7-TW-SE10-TOS	EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
40139248014	ICO7-TW-SE10-TOS-DUP	EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
40139248015	ICO7-TW-NE10-TOS	EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G

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SAMPLE ANALYTE COUNT

Project: 60518412.1 KEP

Pace Project No.: 40139248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40139248016	ICO7-TW-NE10-BOS	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248017	ICO7-TW-SE10-BOS	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248018	CS3-PZ-354	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248019	CS3-MW-354	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248020	CS3-MW-354 DUP	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40139248021	TRIP BLANK-ISCO	SM 5310C	TJJ	1	PASI-G
		EPA 8260	HNW	64	PASI-G

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: CS3-MW-302 **Lab ID: 40139248001** Collected: 09/23/16 11:14 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	3200	ug/L	100	12.9	1		09/30/16 16:43	7439-89-6	
Manganese, Dissolved	256	ug/L	5.0	1.4	1		09/30/16 16:43	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	129	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 21:22	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 21:22	7440-47-3	
Lead	0.37J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 21:22	7439-92-1	
Nickel	6.0	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 21:22	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/05/16 09:58	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/05/16 09:58	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/05/16 09:58	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/05/16 09:58	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/05/16 09:58	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/05/16 09:58	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/05/16 09:58	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	74-87-3	R1
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/05/16 09:58	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/05/16 09:58	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/05/16 09:58	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/05/16 09:58	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/05/16 09:58	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		10/05/16 09:58	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/05/16 09:58	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/05/16 09:58	75-35-4	
cis-1,2-Dichloroethene	850	ug/L	10.0	2.6	10		10/05/16 09:58	156-59-2	
trans-1,2-Dichloroethene	70.0	ug/L	10.0	2.6	10		10/05/16 09:58	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/05/16 09:58	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/05/16 09:58	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/05/16 09:58	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/05/16 09:58	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-302 **Lab ID: 40139248001** Collected: 09/23/16 11:14 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/05/16 09:58	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/05/16 09:58	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	99-87-6	
Methylene Chloride	<2.3	ug/L	10.0	2.3	10		10/05/16 09:58	75-09-2	R1
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/05/16 09:58	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/05/16 09:58	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/05/16 09:58	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/05/16 09:58	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/05/16 09:58	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/05/16 09:58	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/05/16 09:58	79-00-5	
Trichloroethene	342	ug/L	10.0	3.3	10		10/05/16 09:58	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/05/16 09:58	75-69-4	R1
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	108-67-8	
Vinyl chloride	173	ug/L	10.0	1.8	10		10/05/16 09:58	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/05/16 09:58	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		10/05/16 09:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	78	%	70-130		10		10/05/16 09:58	460-00-4	
Dibromofluoromethane (S)	90	%	70-130		10		10/05/16 09:58	1868-53-7	
Toluene-d8 (S)	100	%	70-130		10		10/05/16 09:58	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	173	mg/L	40.0	20.0	10		10/04/16 16:50	16887-00-6	
Sulfate	511	mg/L	40.0	20.0	10		10/04/16 16:50	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	21.2	mg/L	16.8	5.0	20		10/05/16 13:06	7440-44-0	M0

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE7.5-BOS **Lab ID:** 40139248002 Collected: 09/23/16 11:19 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	1420	ug/L	100	12.9	1		09/30/16 16:55	7439-89-6	
Manganese, Dissolved	308	ug/L	5.0	1.4	1		09/30/16 16:55	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	119	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 21:29	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 21:29	7440-47-3	
Lead	0.089J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 21:29	7439-92-1	
Nickel	6.6	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 21:29	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/05/16 12:53	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/05/16 12:53	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/05/16 12:53	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/05/16 12:53	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/05/16 12:53	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/05/16 12:53	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/05/16 12:53	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/05/16 12:53	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/05/16 12:53	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/05/16 12:53	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/05/16 12:53	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/05/16 12:53	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		10/05/16 12:53	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/05/16 12:53	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/05/16 12:53	75-35-4	
cis-1,2-Dichloroethene	693	ug/L	10.0	2.6	10		10/05/16 12:53	156-59-2	
trans-1,2-Dichloroethene	122	ug/L	10.0	2.6	10		10/05/16 12:53	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/05/16 12:53	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/05/16 12:53	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/05/16 12:53	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/05/16 12:53	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE7.5-BOS **Lab ID:** 40139248002 Collected: 09/23/16 11:19 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/05/16 12:53	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/05/16 12:53	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	99-87-6	
Methylene Chloride	4.0J	ug/L	10.0	2.3	10		10/05/16 12:53	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/05/16 12:53	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/05/16 12:53	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/05/16 12:53	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/05/16 12:53	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/05/16 12:53	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/05/16 12:53	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/05/16 12:53	79-00-5	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		10/05/16 12:53	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/05/16 12:53	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	108-67-8	
Vinyl chloride	129	ug/L	10.0	1.8	10		10/05/16 12:53	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/05/16 12:53	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		10/05/16 12:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		10		10/05/16 12:53	460-00-4	
Dibromofluoromethane (S)	92	%	70-130		10		10/05/16 12:53	1868-53-7	
Toluene-d8 (S)	100	%	70-130		10		10/05/16 12:53	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	390	mg/L	80.0	40.0	20		10/05/16 21:22	16887-00-6	
Sulfate	435	mg/L	80.0	40.0	20		10/05/16 21:22	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.6J	mg/L	2.5	0.76	3		10/06/16 10:50	7440-44-0	D3,M0

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: ICO1-TW-SE7.5-TOS **Lab ID:** 40139248003 Collected: 09/23/16 11:31 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2470	ug/L	100	12.9	1		09/30/16 16:58	7439-89-6	
Manganese, Dissolved	298	ug/L	5.0	1.4	1		09/30/16 16:58	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	121	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 21:36	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 21:36	7440-47-3	
Lead	0.072J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 21:36	7439-92-1	
Nickel	13.3	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 21:36	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	71-43-2	
Bromobenzene	<0.58	ug/L	2.5	0.58	2.5		10/05/16 10:20	108-86-1	
Bromochloromethane	<0.85	ug/L	2.5	0.85	2.5		10/05/16 10:20	74-97-5	
Bromodichloromethane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	75-27-4	
Bromoform	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	75-25-2	
Bromomethane	<6.1	ug/L	12.5	6.1	2.5		10/05/16 10:20	74-83-9	
n-Butylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	104-51-8	
sec-Butylbenzene	<5.5	ug/L	12.5	5.5	2.5		10/05/16 10:20	135-98-8	
tert-Butylbenzene	<0.45	ug/L	2.5	0.45	2.5		10/05/16 10:20	98-06-6	
Carbon tetrachloride	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	56-23-5	
Chlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	108-90-7	
Chloroethane	<0.94	ug/L	2.5	0.94	2.5		10/05/16 10:20	75-00-3	
Chloroform	<6.2	ug/L	12.5	6.2	2.5		10/05/16 10:20	67-66-3	
Chloromethane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	74-87-3	
2-Chlorotoluene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	95-49-8	
4-Chlorotoluene	<0.53	ug/L	2.5	0.53	2.5		10/05/16 10:20	106-43-4	
1,2-Dibromo-3-chloropropane	<5.4	ug/L	12.5	5.4	2.5		10/05/16 10:20	96-12-8	
Dibromochloromethane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	124-48-1	
1,2-Dibromoethane (EDB)	<0.44	ug/L	2.5	0.44	2.5		10/05/16 10:20	106-93-4	
Dibromomethane	<1.1	ug/L	2.5	1.1	2.5		10/05/16 10:20	74-95-3	
1,2-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	95-50-1	
1,3-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	541-73-1	
1,4-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	106-46-7	
Dichlorodifluoromethane	<0.56	ug/L	2.5	0.56	2.5		10/05/16 10:20	75-71-8	
1,1-Dichloroethane	<0.60	ug/L	2.5	0.60	2.5		10/05/16 10:20	75-34-3	
1,2-Dichloroethane	<0.42	ug/L	2.5	0.42	2.5		10/05/16 10:20	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	2.5	1.0	2.5		10/05/16 10:20	75-35-4	
cis-1,2-Dichloroethene	393	ug/L	2.5	0.64	2.5		10/05/16 10:20	156-59-2	
trans-1,2-Dichloroethene	34.2	ug/L	2.5	0.64	2.5		10/05/16 10:20	156-60-5	
1,2-Dichloropropane	<0.58	ug/L	2.5	0.58	2.5		10/05/16 10:20	78-87-5	
1,3-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	142-28-9	
2,2-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	594-20-7	
1,1-Dichloropropene	<1.1	ug/L	2.5	1.1	2.5		10/05/16 10:20	563-58-6	
cis-1,3-Dichloropropene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	10061-01-5	
trans-1,3-Dichloropropene	<0.57	ug/L	2.5	0.57	2.5		10/05/16 10:20	10061-02-6	
Diisopropyl ether	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE7.5-TOS **Lab ID:** 40139248003 Collected: 09/23/16 11:31 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	100-41-4	
Hexachloro-1,3-butadiene	<5.3	ug/L	12.5	5.3	2.5		10/05/16 10:20	87-68-3	
Isopropylbenzene (Cumene)	<0.36	ug/L	2.5	0.36	2.5		10/05/16 10:20	98-82-8	
p-Isopropyltoluene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	99-87-6	
Methylene Chloride	<0.58	ug/L	2.5	0.58	2.5		10/05/16 10:20	75-09-2	
Methyl-tert-butyl ether	<0.44	ug/L	2.5	0.44	2.5		10/05/16 10:20	1634-04-4	
Naphthalene	<6.2	ug/L	12.5	6.2	2.5		10/05/16 10:20	91-20-3	
n-Propylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	103-65-1	
Styrene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45	ug/L	2.5	0.45	2.5		10/05/16 10:20	630-20-6	
1,1,2,2-Tetrachloroethane	<0.62	ug/L	2.5	0.62	2.5		10/05/16 10:20	79-34-5	
Tetrachloroethene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	127-18-4	
Toluene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	108-88-3	
1,2,3-Trichlorobenzene	<5.3	ug/L	12.5	5.3	2.5		10/05/16 10:20	87-61-6	
1,2,4-Trichlorobenzene	<5.5	ug/L	12.5	5.5	2.5		10/05/16 10:20	120-82-1	
1,1,1-Trichloroethane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	71-55-6	
1,1,2-Trichloroethane	<0.49	ug/L	2.5	0.49	2.5		10/05/16 10:20	79-00-5	
Trichloroethene	0.88J	ug/L	2.5	0.83	2.5		10/05/16 10:20	79-01-6	
Trichlorofluoromethane	<0.46	ug/L	2.5	0.46	2.5		10/05/16 10:20	75-69-4	
1,2,3-Trichloropropane	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	96-18-4	
1,2,4-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	95-63-6	
1,3,5-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	108-67-8	
Vinyl chloride	171	ug/L	2.5	0.44	2.5		10/05/16 10:20	75-01-4	
m&p-Xylene	<2.5	ug/L	5.0	2.5	2.5		10/05/16 10:20	179601-23-1	
o-Xylene	<1.2	ug/L	2.5	1.2	2.5		10/05/16 10:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		2.5		10/05/16 10:20	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		2.5		10/05/16 10:20	1868-53-7	
Toluene-d8 (S)	100	%	70-130		2.5		10/05/16 10:20	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	102	mg/L	80.0	40.0	20		10/05/16 21:33	16887-00-6	
Sulfate	303	mg/L	80.0	40.0	20		10/05/16 21:33	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	14.3	mg/L	5.0	1.5	6		10/06/16 11:46	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-PZ-302 **Lab ID: 40139248004** Collected: 09/23/16 12:25 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	3330	ug/L	100	12.9	1		09/30/16 17:00	7439-89-6	
Manganese, Dissolved	113	ug/L	5.0	1.4	1		09/30/16 17:00	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	107	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 21:43	7440-39-3	
Chromium	0.76J	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 21:43	7440-47-3	
Lead	0.17J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 21:43	7439-92-1	
Nickel	3.0	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 21:43	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<100	ug/L	200	100	200		10/05/16 18:52	71-43-2	
Bromobenzene	<46.0	ug/L	200	46.0	200		10/05/16 18:52	108-86-1	
Bromochloromethane	<68.1	ug/L	200	68.1	200		10/05/16 18:52	74-97-5	
Bromodichloromethane	<100	ug/L	200	100	200		10/05/16 18:52	75-27-4	
Bromoform	<100	ug/L	200	100	200		10/05/16 18:52	75-25-2	
Bromomethane	<487	ug/L	1000	487	200		10/05/16 18:52	74-83-9	
n-Butylbenzene	<100	ug/L	200	100	200		10/05/16 18:52	104-51-8	
sec-Butylbenzene	<437	ug/L	1000	437	200		10/05/16 18:52	135-98-8	
tert-Butylbenzene	<36.1	ug/L	200	36.1	200		10/05/16 18:52	98-06-6	
Carbon tetrachloride	<100	ug/L	200	100	200		10/05/16 18:52	56-23-5	
Chlorobenzene	<100	ug/L	200	100	200		10/05/16 18:52	108-90-7	
Chloroethane	<74.9	ug/L	200	74.9	200		10/05/16 18:52	75-00-3	
Chloroform	<500	ug/L	1000	500	200		10/05/16 18:52	67-66-3	
Chloromethane	<100	ug/L	200	100	200		10/05/16 18:52	74-87-3	
2-Chlorotoluene	<100	ug/L	200	100	200		10/05/16 18:52	95-49-8	
4-Chlorotoluene	<42.7	ug/L	200	42.7	200		10/05/16 18:52	106-43-4	
1,2-Dibromo-3-chloropropane	<433	ug/L	1000	433	200		10/05/16 18:52	96-12-8	
Dibromochloromethane	<100	ug/L	200	100	200		10/05/16 18:52	124-48-1	
1,2-Dibromoethane (EDB)	<35.6	ug/L	200	35.6	200		10/05/16 18:52	106-93-4	
Dibromomethane	<85.3	ug/L	200	85.3	200		10/05/16 18:52	74-95-3	
1,2-Dichlorobenzene	<100	ug/L	200	100	200		10/05/16 18:52	95-50-1	
1,3-Dichlorobenzene	<100	ug/L	200	100	200		10/05/16 18:52	541-73-1	
1,4-Dichlorobenzene	<100	ug/L	200	100	200		10/05/16 18:52	106-46-7	
Dichlorodifluoromethane	<44.8	ug/L	200	44.8	200		10/05/16 18:52	75-71-8	
1,1-Dichloroethane	<48.3	ug/L	200	48.3	200		10/05/16 18:52	75-34-3	
1,2-Dichloroethane	<33.6	ug/L	200	33.6	200		10/05/16 18:52	107-06-2	
1,1-Dichloroethene	<82.0	ug/L	200	82.0	200		10/05/16 18:52	75-35-4	
cis-1,2-Dichloroethene	9470	ug/L	200	51.2	200		10/05/16 18:52	156-59-2	
trans-1,2-Dichloroethene	376	ug/L	200	51.3	200		10/05/16 18:52	156-60-5	
1,2-Dichloropropane	<46.6	ug/L	200	46.6	200		10/05/16 18:52	78-87-5	
1,3-Dichloropropane	<100	ug/L	200	100	200		10/05/16 18:52	142-28-9	
2,2-Dichloropropane	<96.8	ug/L	200	96.8	200		10/05/16 18:52	594-20-7	
1,1-Dichloropropene	<88.2	ug/L	200	88.2	200		10/05/16 18:52	563-58-6	
cis-1,3-Dichloropropene	<100	ug/L	200	100	200		10/05/16 18:52	10061-01-5	
trans-1,3-Dichloropropene	<45.9	ug/L	200	45.9	200		10/05/16 18:52	10061-02-6	
Diisopropyl ether	<100	ug/L	200	100	200		10/05/16 18:52	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-PZ-302 **Lab ID: 40139248004** Collected: 09/23/16 12:25 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<100	ug/L	200	100	200		10/05/16 18:52	100-41-4	
Hexachloro-1,3-butadiene	<421	ug/L	1000	421	200		10/05/16 18:52	87-68-3	
Isopropylbenzene (Cumene)	<28.7	ug/L	200	28.7	200		10/05/16 18:52	98-82-8	
p-Isopropyltoluene	<100	ug/L	200	100	200		10/05/16 18:52	99-87-6	
Methylene Chloride	132J	ug/L	200	46.5	200		10/05/16 18:52	75-09-2	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		10/05/16 18:52	1634-04-4	
Naphthalene	<500	ug/L	1000	500	200		10/05/16 18:52	91-20-3	
n-Propylbenzene	<100	ug/L	200	100	200		10/05/16 18:52	103-65-1	
Styrene	<100	ug/L	200	100	200		10/05/16 18:52	100-42-5	
1,1,1,2-Tetrachloroethane	<36.1	ug/L	200	36.1	200		10/05/16 18:52	630-20-6	
1,1,2,2-Tetrachloroethane	<49.9	ug/L	200	49.9	200		10/05/16 18:52	79-34-5	
Tetrachloroethene	<100	ug/L	200	100	200		10/05/16 18:52	127-18-4	
Toluene	<100	ug/L	200	100	200		10/05/16 18:52	108-88-3	
1,2,3-Trichlorobenzene	<427	ug/L	1000	427	200		10/05/16 18:52	87-61-6	
1,2,4-Trichlorobenzene	<442	ug/L	1000	442	200		10/05/16 18:52	120-82-1	
1,1,1-Trichloroethane	<100	ug/L	200	100	200		10/05/16 18:52	71-55-6	
1,1,2-Trichloroethane	<39.5	ug/L	200	39.5	200		10/05/16 18:52	79-00-5	
Trichloroethene	45700	ug/L	200	66.1	200		10/05/16 18:52	79-01-6	
Trichlorofluoromethane	<37.0	ug/L	200	37.0	200		10/05/16 18:52	75-69-4	
1,2,3-Trichloropropane	<100	ug/L	200	100	200		10/05/16 18:52	96-18-4	
1,2,4-Trimethylbenzene	<100	ug/L	200	100	200		10/05/16 18:52	95-63-6	
1,3,5-Trimethylbenzene	<100	ug/L	200	100	200		10/05/16 18:52	108-67-8	
Vinyl chloride	203	ug/L	200	35.1	200		10/05/16 18:52	75-01-4	
m&p-Xylene	<200	ug/L	400	200	200		10/05/16 18:52	179601-23-1	
o-Xylene	<100	ug/L	200	100	200		10/05/16 18:52	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		200		10/05/16 18:52	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		200		10/05/16 18:52	1868-53-7	
Toluene-d8 (S)	96	%	70-130		200		10/05/16 18:52	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	334	mg/L	40.0	20.0	10		10/04/16 17:23	16887-00-6	
Sulfate	283	mg/L	40.0	20.0	10		10/04/16 17:23	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	4.1J	mg/L	5.0	1.5	6		10/06/16 12:06	7440-44-0	D3

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE5-TOS **Lab ID:** 40139248005 Collected: 09/23/16 12:35 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2280	ug/L	100	12.9	1		09/30/16 17:03	7439-89-6	
Manganese, Dissolved	279	ug/L	5.0	1.4	1		09/30/16 17:03	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	125	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 21:50	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 21:50	7440-47-3	
Lead	0.077J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 21:50	7439-92-1	
Nickel	6.6	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 21:50	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		10/05/16 11:04	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		10/05/16 11:04	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		10/05/16 11:04	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		10/05/16 11:04	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		10/05/16 11:04	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		10/05/16 11:04	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		10/05/16 11:04	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:04	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		10/05/16 11:04	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		10/05/16 11:04	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		10/05/16 11:04	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		10/05/16 11:04	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:04	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		10/05/16 11:04	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		10/05/16 11:04	75-35-4	
cis-1,2-Dichloroethene	346	ug/L	5.0	1.3	5		10/05/16 11:04	156-59-2	
trans-1,2-Dichloroethene	26.0	ug/L	5.0	1.3	5		10/05/16 11:04	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:04	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		10/05/16 11:04	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		10/05/16 11:04	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:04	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE5-TOS **Lab ID:** 40139248005 Collected: 09/23/16 12:35 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		10/05/16 11:04	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		10/05/16 11:04	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	99-87-6	
Methylene Chloride	2.1J	ug/L	5.0	1.2	5		10/05/16 11:04	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		10/05/16 11:04	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		10/05/16 11:04	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		10/05/16 11:04	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:04	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		10/05/16 11:04	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		10/05/16 11:04	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		10/05/16 11:04	79-00-5	
Trichloroethene	<1.7	ug/L	5.0	1.7	5		10/05/16 11:04	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		10/05/16 11:04	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	108-67-8	
Vinyl chloride	145	ug/L	5.0	0.88	5		10/05/16 11:04	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		10/05/16 11:04	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	78	%	70-130		5		10/05/16 11:04	460-00-4	
Dibromofluoromethane (S)	92	%	70-130		5		10/05/16 11:04	1868-53-7	
Toluene-d8 (S)	102	%	70-130		5		10/05/16 11:04	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	65.2	mg/L	20.0	10.0	5		10/05/16 21:44	16887-00-6	
Sulfate	304	mg/L	80.0	40.0	20		10/05/16 22:17	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	12.6	mg/L	8.4	2.5	10		10/06/16 12:24	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO1-TW-SE5-BOS **Lab ID:** 40139248006 Collected: 09/23/16 12:49 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	4720	ug/L	100	12.9	1		09/30/16 17:05	7439-89-6	
Manganese, Dissolved	246	ug/L	5.0	1.4	1		09/30/16 17:05	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	122	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:10	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:10	7440-47-3	
Lead	0.10J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:10	7439-92-1	
Nickel	4.9	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:10	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:15	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/05/16 13:15	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/05/16 13:15	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/05/16 13:15	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/05/16 13:15	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/05/16 13:15	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/05/16 13:15	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/05/16 13:15	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/05/16 13:15	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/05/16 13:15	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/05/16 13:15	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/05/16 13:15	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		10/05/16 13:15	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/05/16 13:15	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/05/16 13:15	75-35-4	
cis-1,2-Dichloroethene	945	ug/L	10.0	2.6	10		10/05/16 13:15	156-59-2	
trans-1,2-Dichloroethene	142	ug/L	10.0	2.6	10		10/05/16 13:15	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/05/16 13:15	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/05/16 13:15	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/05/16 13:15	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:15	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: ICO1-TW-SE5-BOS **Lab ID:** 40139248006 Collected: 09/23/16 12:49 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/05/16 13:15	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/05/16 13:15	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	99-87-6	
Methylene Chloride	3.7J	ug/L	10.0	2.3	10		10/05/16 13:15	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/05/16 13:15	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/05/16 13:15	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:15	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/05/16 13:15	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/05/16 13:15	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/05/16 13:15	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/05/16 13:15	79-00-5	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		10/05/16 13:15	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:15	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	108-67-8	
Vinyl chloride	155	ug/L	10.0	1.8	10		10/05/16 13:15	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/05/16 13:15	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		10		10/05/16 13:15	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		10		10/05/16 13:15	1868-53-7	
Toluene-d8 (S)	98	%	70-130		10		10/05/16 13:15	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	288	mg/L	40.0	20.0	10		10/05/16 22:28	16887-00-6	
Sulfate	496	mg/L	40.0	20.0	10		10/05/16 22:28	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	4.9J	mg/L	5.0	1.5	6		10/06/16 12:43	7440-44-0	D3

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE7.5-TOS **Lab ID:** 40139248007 Collected: 09/23/16 14:02 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2370	ug/L	100	12.9	1		09/30/16 17:08	7439-89-6	
Manganese, Dissolved	341	ug/L	5.0	1.4	1		09/30/16 17:08	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	94.2	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:17	7440-39-3	
Chromium	0.84J	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:17	7440-47-3	
Lead	1.0	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:17	7439-92-1	
Nickel	8.2	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:17	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		10/05/16 11:26	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		10/05/16 11:26	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		10/05/16 11:26	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		10/05/16 11:26	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		10/05/16 11:26	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		10/05/16 11:26	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		10/05/16 11:26	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:26	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		10/05/16 11:26	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		10/05/16 11:26	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		10/05/16 11:26	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		10/05/16 11:26	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:26	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		10/05/16 11:26	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		10/05/16 11:26	75-35-4	
cis-1,2-Dichloroethene	984	ug/L	5.0	1.3	5		10/05/16 11:26	156-59-2	
trans-1,2-Dichloroethene	93.6	ug/L	5.0	1.3	5		10/05/16 11:26	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:26	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		10/05/16 11:26	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		10/05/16 11:26	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:26	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE7.5-TOS **Lab ID:** 40139248007 Collected: 09/23/16 14:02 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		10/05/16 11:26	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		10/05/16 11:26	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	99-87-6	
Methylene Chloride	1.9J	ug/L	5.0	1.2	5		10/05/16 11:26	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		10/05/16 11:26	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		10/05/16 11:26	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		10/05/16 11:26	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:26	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		10/05/16 11:26	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		10/05/16 11:26	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		10/05/16 11:26	79-00-5	
Trichloroethene	376	ug/L	5.0	1.7	5		10/05/16 11:26	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		10/05/16 11:26	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	108-67-8	
Vinyl chloride	99.6	ug/L	5.0	0.88	5		10/05/16 11:26	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		10/05/16 11:26	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		5		10/05/16 11:26	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		5		10/05/16 11:26	1868-53-7	
Toluene-d8 (S)	99	%	70-130		5		10/05/16 11:26	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	187	mg/L	80.0	40.0	20		10/05/16 22:39	16887-00-6	
Sulfate	461	mg/L	80.0	40.0	20		10/05/16 22:39	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	14.6	mg/L	8.4	2.5	10		10/06/16 13:02	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE7.5-BOS **Lab ID: 40139248008** Collected: 09/23/16 14:13 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2620	ug/L	100	12.9	1		09/30/16 17:10	7439-89-6	
Manganese, Dissolved	286	ug/L	5.0	1.4	1		09/30/16 17:10	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	94.0	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:23	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:23	7440-47-3	
Lead	0.046J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:23	7439-92-1	
Nickel	6.7	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:23	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	71-43-2	
Bromobenzene	<4.6	ug/L	20.0	4.6	20		10/05/16 14:21	108-86-1	
Bromochloromethane	<6.8	ug/L	20.0	6.8	20		10/05/16 14:21	74-97-5	
Bromodichloromethane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	75-27-4	
Bromoform	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	75-25-2	
Bromomethane	<48.7	ug/L	100	48.7	20		10/05/16 14:21	74-83-9	
n-Butylbenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	104-51-8	
sec-Butylbenzene	<43.7	ug/L	100	43.7	20		10/05/16 14:21	135-98-8	
tert-Butylbenzene	<3.6	ug/L	20.0	3.6	20		10/05/16 14:21	98-06-6	
Carbon tetrachloride	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	56-23-5	
Chlorobenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	108-90-7	
Chloroethane	<7.5	ug/L	20.0	7.5	20		10/05/16 14:21	75-00-3	
Chloroform	<50.0	ug/L	100	50.0	20		10/05/16 14:21	67-66-3	
Chloromethane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	74-87-3	
2-Chlorotoluene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	95-49-8	
4-Chlorotoluene	<4.3	ug/L	20.0	4.3	20		10/05/16 14:21	106-43-4	
1,2-Dibromo-3-chloropropane	<43.3	ug/L	100	43.3	20		10/05/16 14:21	96-12-8	
Dibromochloromethane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	124-48-1	
1,2-Dibromoethane (EDB)	<3.6	ug/L	20.0	3.6	20		10/05/16 14:21	106-93-4	
Dibromomethane	<8.5	ug/L	20.0	8.5	20		10/05/16 14:21	74-95-3	
1,2-Dichlorobenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	95-50-1	
1,3-Dichlorobenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	541-73-1	
1,4-Dichlorobenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	106-46-7	
Dichlorodifluoromethane	<4.5	ug/L	20.0	4.5	20		10/05/16 14:21	75-71-8	
1,1-Dichloroethane	<4.8	ug/L	20.0	4.8	20		10/05/16 14:21	75-34-3	
1,2-Dichloroethane	<3.4	ug/L	20.0	3.4	20		10/05/16 14:21	107-06-2	
1,1-Dichloroethene	<8.2	ug/L	20.0	8.2	20		10/05/16 14:21	75-35-4	
cis-1,2-Dichloroethene	1360	ug/L	20.0	5.1	20		10/05/16 14:21	156-59-2	
trans-1,2-Dichloroethene	117	ug/L	20.0	5.1	20		10/05/16 14:21	156-60-5	
1,2-Dichloropropane	<4.7	ug/L	20.0	4.7	20		10/05/16 14:21	78-87-5	
1,3-Dichloropropane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	142-28-9	
2,2-Dichloropropane	<9.7	ug/L	20.0	9.7	20		10/05/16 14:21	594-20-7	
1,1-Dichloropropene	<8.8	ug/L	20.0	8.8	20		10/05/16 14:21	563-58-6	
cis-1,3-Dichloropropene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	10061-01-5	
trans-1,3-Dichloropropene	<4.6	ug/L	20.0	4.6	20		10/05/16 14:21	10061-02-6	
Diisopropyl ether	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE7.5-BOS **Lab ID: 40139248008** Collected: 09/23/16 14:13 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	100-41-4	
Hexachloro-1,3-butadiene	<42.1	ug/L	100	42.1	20		10/05/16 14:21	87-68-3	
Isopropylbenzene (Cumene)	<2.9	ug/L	20.0	2.9	20		10/05/16 14:21	98-82-8	
p-Isopropyltoluene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	99-87-6	
Methylene Chloride	8.6J	ug/L	20.0	4.7	20		10/05/16 14:21	75-09-2	
Methyl-tert-butyl ether	<3.5	ug/L	20.0	3.5	20		10/05/16 14:21	1634-04-4	
Naphthalene	<50.0	ug/L	100	50.0	20		10/05/16 14:21	91-20-3	
n-Propylbenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	103-65-1	
Styrene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	100-42-5	
1,1,1,2-Tetrachloroethane	<3.6	ug/L	20.0	3.6	20		10/05/16 14:21	630-20-6	
1,1,2,2-Tetrachloroethane	<5.0	ug/L	20.0	5.0	20		10/05/16 14:21	79-34-5	
Tetrachloroethene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	127-18-4	
Toluene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	108-88-3	
1,2,3-Trichlorobenzene	<42.7	ug/L	100	42.7	20		10/05/16 14:21	87-61-6	
1,2,4-Trichlorobenzene	<44.2	ug/L	100	44.2	20		10/05/16 14:21	120-82-1	
1,1,1-Trichloroethane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	71-55-6	
1,1,2-Trichloroethane	<3.9	ug/L	20.0	3.9	20		10/05/16 14:21	79-00-5	
Trichloroethene	639	ug/L	20.0	6.6	20		10/05/16 14:21	79-01-6	
Trichlorofluoromethane	<3.7	ug/L	20.0	3.7	20		10/05/16 14:21	75-69-4	
1,2,3-Trichloropropane	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	96-18-4	
1,2,4-Trimethylbenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	95-63-6	
1,3,5-Trimethylbenzene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	108-67-8	
Vinyl chloride	75.0	ug/L	20.0	3.5	20		10/05/16 14:21	75-01-4	
m&p-Xylene	<20.0	ug/L	40.0	20.0	20		10/05/16 14:21	179601-23-1	
o-Xylene	<10.0	ug/L	20.0	10.0	20		10/05/16 14:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		20		10/05/16 14:21	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		20		10/05/16 14:21	1868-53-7	
Toluene-d8 (S)	96	%	70-130		20		10/05/16 14:21	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	231	mg/L	80.0	40.0	20		10/05/16 22:50	16887-00-6	
Sulfate	435	mg/L	80.0	40.0	20		10/05/16 22:50	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	11.5	mg/L	8.4	2.5	10		10/06/16 13:21	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE5-TOS **Lab ID:** 40139248009 Collected: 09/23/16 15:32 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	3190	ug/L	100	12.9	1		09/30/16 17:13	7439-89-6	
Manganese, Dissolved	354	ug/L	5.0	1.4	1		09/30/16 17:13	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	102	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:30	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:30	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:30	7439-92-1	
Nickel	6.5	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:30	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		10/05/16 11:48	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		10/05/16 11:48	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		10/05/16 11:48	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		10/05/16 11:48	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		10/05/16 11:48	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		10/05/16 11:48	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		10/05/16 11:48	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:48	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		10/05/16 11:48	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		10/05/16 11:48	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		10/05/16 11:48	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		10/05/16 11:48	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:48	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		10/05/16 11:48	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		10/05/16 11:48	75-35-4	
cis-1,2-Dichloroethene	512	ug/L	5.0	1.3	5		10/05/16 11:48	156-59-2	
trans-1,2-Dichloroethene	43.2	ug/L	5.0	1.3	5		10/05/16 11:48	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:48	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		10/05/16 11:48	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		10/05/16 11:48	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		10/05/16 11:48	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE5-TOS **Lab ID:** 40139248009 Collected: 09/23/16 15:32 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		10/05/16 11:48	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		10/05/16 11:48	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	99-87-6	
Methylene Chloride	1.3J	ug/L	5.0	1.2	5		10/05/16 11:48	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		10/05/16 11:48	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		10/05/16 11:48	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		10/05/16 11:48	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 11:48	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		10/05/16 11:48	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		10/05/16 11:48	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		10/05/16 11:48	79-00-5	
Trichloroethene	308	ug/L	5.0	1.7	5		10/05/16 11:48	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		10/05/16 11:48	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	108-67-8	
Vinyl chloride	69.6	ug/L	5.0	0.88	5		10/05/16 11:48	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		10/05/16 11:48	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		10/05/16 11:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		5		10/05/16 11:48	460-00-4	
Dibromofluoromethane (S)	94	%	70-130		5		10/05/16 11:48	1868-53-7	
Toluene-d8 (S)	115	%	70-130		5		10/05/16 11:48	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	163	mg/L	80.0	40.0	20		10/05/16 23:01	16887-00-6	
Sulfate	513	mg/L	80.0	40.0	20		10/05/16 23:01	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	13.8	mg/L	8.4	2.5	10		10/06/16 13:39	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE5-BOS **Lab ID:** 40139248010 Collected: 09/23/16 15:17 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2770	ug/L	100	12.9	1		09/30/16 17:15	7439-89-6	
Manganese, Dissolved	305	ug/L	5.0	1.4	1		09/30/16 17:15	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	95.8	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:37	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:37	7440-47-3	
Lead	0.16J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:37	7439-92-1	
Nickel	6.6	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:37	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:38	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/05/16 13:38	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/05/16 13:38	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/05/16 13:38	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/05/16 13:38	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/05/16 13:38	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/05/16 13:38	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/05/16 13:38	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/05/16 13:38	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/05/16 13:38	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/05/16 13:38	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/05/16 13:38	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		10/05/16 13:38	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/05/16 13:38	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/05/16 13:38	75-35-4	
cis-1,2-Dichloroethene	1060	ug/L	10.0	2.6	10		10/05/16 13:38	156-59-2	
trans-1,2-Dichloroethene	92.6	ug/L	10.0	2.6	10		10/05/16 13:38	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/05/16 13:38	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/05/16 13:38	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/05/16 13:38	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:38	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: ICO6-TW-NE5-BOS **Lab ID:** 40139248010 Collected: 09/23/16 15:17 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/05/16 13:38	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/05/16 13:38	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	99-87-6	
Methylene Chloride	2.7J	ug/L	10.0	2.3	10		10/05/16 13:38	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/05/16 13:38	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/05/16 13:38	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:38	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/05/16 13:38	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/05/16 13:38	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/05/16 13:38	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/05/16 13:38	79-00-5	
Trichloroethene	621	ug/L	10.0	3.3	10		10/05/16 13:38	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:38	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	108-67-8	
Vinyl chloride	77.4	ug/L	10.0	1.8	10		10/05/16 13:38	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/05/16 13:38	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		10		10/05/16 13:38	460-00-4	
Dibromofluoromethane (S)	94	%	70-130		10		10/05/16 13:38	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		10/05/16 13:38	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	221	mg/L	80.0	40.0	20		10/05/16 23:12	16887-00-6	
Sulfate	471	mg/L	80.0	40.0	20		10/05/16 23:12	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	11.5	mg/L	8.4	2.5	10		10/06/16 14:17	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: CS3-PZ-317 **Lab ID: 40139248011** Collected: 09/23/16 15:40 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	83.6J	ug/L	100	12.9	1		09/30/16 17:22	7439-89-6	
Manganese, Dissolved	59.8	ug/L	5.0	1.4	1		09/30/16 17:22	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	162	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:44	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:44	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:44	7439-92-1	
Nickel	1.0J	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:44	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/05/16 17:03	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/05/16 17:03	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/05/16 17:03	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 17:03	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/05/16 17:03	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/05/16 17:03	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/05/16 17:03	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/05/16 17:03	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/05/16 17:03	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/05/16 17:03	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/05/16 17:03	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/05/16 17:03	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		10/05/16 17:03	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/05/16 17:03	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		10/05/16 17:03	75-35-4	
cis-1,2-Dichloroethene	1.1	ug/L	1.0	0.26	1		10/05/16 17:03	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/05/16 17:03	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/05/16 17:03	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/05/16 17:03	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/05/16 17:03	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/05/16 17:03	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-PZ-317 Lab ID: 40139248011 Collected: 09/23/16 15:40 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/05/16 17:03	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/05/16 17:03	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/05/16 17:03	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		10/05/16 17:03	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/05/16 17:03	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/05/16 17:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/05/16 17:03	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/05/16 17:03	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 17:03	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/05/16 17:03	79-00-5	
Trichloroethene	0.53J	ug/L	1.0	0.33	1		10/05/16 17:03	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/05/16 17:03	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		10/05/16 17:03	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/05/16 17:03	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/05/16 17:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		10/05/16 17:03	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		1		10/05/16 17:03	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		10/05/16 17:03	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	187	mg/L	40.0	20.0	10		10/05/16 23:23	16887-00-6	
Sulfate	123	mg/L	40.0	20.0	10		10/05/16 23:23	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		10/06/16 14:36	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-317 **Lab ID: 40139248012** Collected: 09/26/16 09:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	4030	ug/L	100	12.9	1		09/30/16 17:25	7439-89-6	
Manganese, Dissolved	190	ug/L	5.0	1.4	1		09/30/16 17:25	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	95.0	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:51	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:51	7440-47-3	
Lead	0.12J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:51	7439-92-1	
Nickel	9.5	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:51	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:59	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		10/05/16 13:59	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		10/05/16 13:59	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		10/05/16 13:59	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		10/05/16 13:59	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		10/05/16 13:59	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		10/05/16 13:59	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		10/05/16 13:59	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		10/05/16 13:59	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		10/05/16 13:59	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		10/05/16 13:59	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		10/05/16 13:59	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		10/05/16 13:59	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		10/05/16 13:59	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		10/05/16 13:59	75-35-4	
cis-1,2-Dichloroethene	753	ug/L	10.0	2.6	10		10/05/16 13:59	156-59-2	
trans-1,2-Dichloroethene	64.6	ug/L	10.0	2.6	10		10/05/16 13:59	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		10/05/16 13:59	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		10/05/16 13:59	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		10/05/16 13:59	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		10/05/16 13:59	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: CS3-MW-317 **Lab ID: 40139248012** Collected: 09/26/16 09:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		10/05/16 13:59	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		10/05/16 13:59	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	99-87-6	
Methylene Chloride	3.3J	ug/L	10.0	2.3	10		10/05/16 13:59	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		10/05/16 13:59	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		10/05/16 13:59	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:59	630-20-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		10/05/16 13:59	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		10/05/16 13:59	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		10/05/16 13:59	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		10/05/16 13:59	79-00-5	
Trichloroethene	<3.3	ug/L	10.0	3.3	10		10/05/16 13:59	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		10/05/16 13:59	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	108-67-8	
Vinyl chloride	324	ug/L	10.0	1.8	10		10/05/16 13:59	75-01-4	
m&p-Xylene	<10.0	ug/L	20.0	10.0	10		10/05/16 13:59	179601-23-1	
o-Xylene	<5.0	ug/L	10.0	5.0	10		10/05/16 13:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		10		10/05/16 13:59	460-00-4	
Dibromofluoromethane (S)	93	%	70-130		10		10/05/16 13:59	1868-53-7	
Toluene-d8 (S)	98	%	70-130		10		10/05/16 13:59	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	135	mg/L	40.0	20.0	10		10/05/16 23:34	16887-00-6	
Sulfate	358	mg/L	40.0	20.0	10		10/05/16 23:34	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	7.8J	mg/L	8.4	2.5	10		10/06/16 14:55	7440-44-0	D3

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: **IC07-TW-SE10-TOS** Lab ID: **40139248013** Collected: 09/26/16 09:29 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	1530	ug/L	100	12.9	1		09/30/16 17:27	7439-89-6	
Manganese, Dissolved	294	ug/L	5.0	1.4	1		09/30/16 17:27	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	135	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 22:57	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 22:57	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 22:57	7439-92-1	
Nickel	6.0	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 22:57	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	71-43-2	
Bromobenzene	<11.5	ug/L	50.0	11.5	50		10/05/16 17:25	108-86-1	
Bromochloromethane	<17.0	ug/L	50.0	17.0	50		10/05/16 17:25	74-97-5	
Bromodichloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	75-27-4	
Bromoform	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	75-25-2	
Bromomethane	<122	ug/L	250	122	50		10/05/16 17:25	74-83-9	
n-Butylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	104-51-8	
sec-Butylbenzene	<109	ug/L	250	109	50		10/05/16 17:25	135-98-8	
tert-Butylbenzene	<9.0	ug/L	50.0	9.0	50		10/05/16 17:25	98-06-6	
Carbon tetrachloride	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	56-23-5	
Chlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	108-90-7	
Chloroethane	<18.7	ug/L	50.0	18.7	50		10/05/16 17:25	75-00-3	
Chloroform	<125	ug/L	250	125	50		10/05/16 17:25	67-66-3	
Chloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	74-87-3	
2-Chlorotoluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	95-49-8	
4-Chlorotoluene	<10.7	ug/L	50.0	10.7	50		10/05/16 17:25	106-43-4	
1,2-Dibromo-3-chloropropane	<108	ug/L	250	108	50		10/05/16 17:25	96-12-8	
Dibromochloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	124-48-1	
1,2-Dibromoethane (EDB)	<8.9	ug/L	50.0	8.9	50		10/05/16 17:25	106-93-4	
Dibromomethane	<21.3	ug/L	50.0	21.3	50		10/05/16 17:25	74-95-3	
1,2-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	95-50-1	
1,3-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	541-73-1	
1,4-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	106-46-7	
Dichlorodifluoromethane	<11.2	ug/L	50.0	11.2	50		10/05/16 17:25	75-71-8	
1,1-Dichloroethane	<12.1	ug/L	50.0	12.1	50		10/05/16 17:25	75-34-3	
1,2-Dichloroethane	<8.4	ug/L	50.0	8.4	50		10/05/16 17:25	107-06-2	
1,1-Dichloroethene	<20.5	ug/L	50.0	20.5	50		10/05/16 17:25	75-35-4	
cis-1,2-Dichloroethene	1670	ug/L	50.0	12.8	50		10/05/16 17:25	156-59-2	
trans-1,2-Dichloroethene	144	ug/L	50.0	12.8	50		10/05/16 17:25	156-60-5	
1,2-Dichloropropane	<11.7	ug/L	50.0	11.7	50		10/05/16 17:25	78-87-5	
1,3-Dichloropropane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	142-28-9	
2,2-Dichloropropane	<24.2	ug/L	50.0	24.2	50		10/05/16 17:25	594-20-7	
1,1-Dichloropropene	<22.1	ug/L	50.0	22.1	50		10/05/16 17:25	563-58-6	
cis-1,3-Dichloropropene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	10061-01-5	
trans-1,3-Dichloropropene	<11.5	ug/L	50.0	11.5	50		10/05/16 17:25	10061-02-6	
Diisopropyl ether	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: IC07-TW-SE10-TOS **Lab ID: 40139248013** Collected: 09/26/16 09:29 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	100-41-4	
Hexachloro-1,3-butadiene	<105	ug/L	250	105	50		10/05/16 17:25	87-68-3	
Isopropylbenzene (Cumene)	<7.2	ug/L	50.0	7.2	50		10/05/16 17:25	98-82-8	
p-Isopropyltoluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	99-87-6	
Methylene Chloride	<11.6	ug/L	50.0	11.6	50		10/05/16 17:25	75-09-2	
Methyl-tert-butyl ether	<8.7	ug/L	50.0	8.7	50		10/05/16 17:25	1634-04-4	
Naphthalene	<125	ug/L	250	125	50		10/05/16 17:25	91-20-3	
n-Propylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	103-65-1	
Styrene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	100-42-5	
1,1,1,2-Tetrachloroethane	<9.0	ug/L	50.0	9.0	50		10/05/16 17:25	630-20-6	
1,1,2,2-Tetrachloroethane	<12.5	ug/L	50.0	12.5	50		10/05/16 17:25	79-34-5	
Tetrachloroethene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	127-18-4	
Toluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	108-88-3	
1,2,3-Trichlorobenzene	<107	ug/L	250	107	50		10/05/16 17:25	87-61-6	
1,2,4-Trichlorobenzene	<110	ug/L	250	110	50		10/05/16 17:25	120-82-1	
1,1,1-Trichloroethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	71-55-6	
1,1,2-Trichloroethane	<9.9	ug/L	50.0	9.9	50		10/05/16 17:25	79-00-5	
Trichloroethene	14900	ug/L	50.0	16.5	50		10/05/16 17:25	79-01-6	
Trichlorofluoromethane	<9.2	ug/L	50.0	9.2	50		10/05/16 17:25	75-69-4	
1,2,3-Trichloropropane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	96-18-4	
1,2,4-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	95-63-6	
1,3,5-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	108-67-8	
Vinyl chloride	83.4	ug/L	50.0	8.8	50		10/05/16 17:25	75-01-4	
m&p-Xylene	<50.0	ug/L	100	50.0	50		10/05/16 17:25	179601-23-1	
o-Xylene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:25	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		50		10/05/16 17:25	460-00-4	
Dibromofluoromethane (S)	95	%	70-130		50		10/05/16 17:25	1868-53-7	
Toluene-d8 (S)	95	%	70-130		50		10/05/16 17:25	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	185	mg/L	40.0	20.0	10		10/05/16 23:45	16887-00-6	
Sulfate	422	mg/L	40.0	20.0	10		10/05/16 23:45	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	14.6	mg/L	8.4	2.5	10		10/06/16 15:13	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: IC07-TW-SE10-TOS-DUP **Lab ID:** 40139248014 Collected: 09/26/16 09:29 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	1560	ug/L	100	12.9	1		09/30/16 17:30	7439-89-6	
Manganese, Dissolved	294	ug/L	5.0	1.4	1		09/30/16 17:30	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	135	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 23:04	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 23:04	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 23:04	7439-92-1	
Nickel	5.9	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 23:04	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	71-43-2	
Bromobenzene	<23.0	ug/L	100	23.0	100		10/05/16 18:30	108-86-1	
Bromochloromethane	<34.0	ug/L	100	34.0	100		10/05/16 18:30	74-97-5	
Bromodichloromethane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	75-27-4	
Bromoform	<50.0	ug/L	100	50.0	100		10/05/16 18:30	75-25-2	
Bromomethane	<243	ug/L	500	243	100		10/05/16 18:30	74-83-9	
n-Butylbenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	104-51-8	
sec-Butylbenzene	<219	ug/L	500	219	100		10/05/16 18:30	135-98-8	
tert-Butylbenzene	<18.0	ug/L	100	18.0	100		10/05/16 18:30	98-06-6	
Carbon tetrachloride	<50.0	ug/L	100	50.0	100		10/05/16 18:30	56-23-5	
Chlorobenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	108-90-7	
Chloroethane	<37.5	ug/L	100	37.5	100		10/05/16 18:30	75-00-3	
Chloroform	<250	ug/L	500	250	100		10/05/16 18:30	67-66-3	
Chloromethane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	74-87-3	
2-Chlorotoluene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	95-49-8	
4-Chlorotoluene	<21.4	ug/L	100	21.4	100		10/05/16 18:30	106-43-4	
1,2-Dibromo-3-chloropropane	<216	ug/L	500	216	100		10/05/16 18:30	96-12-8	
Dibromochloromethane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	124-48-1	
1,2-Dibromoethane (EDB)	<17.8	ug/L	100	17.8	100		10/05/16 18:30	106-93-4	
Dibromomethane	<42.7	ug/L	100	42.7	100		10/05/16 18:30	74-95-3	
1,2-Dichlorobenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	95-50-1	
1,3-Dichlorobenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	541-73-1	
1,4-Dichlorobenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	106-46-7	
Dichlorodifluoromethane	<22.4	ug/L	100	22.4	100		10/05/16 18:30	75-71-8	
1,1-Dichloroethane	<24.2	ug/L	100	24.2	100		10/05/16 18:30	75-34-3	
1,2-Dichloroethane	<16.8	ug/L	100	16.8	100		10/05/16 18:30	107-06-2	
1,1-Dichloroethene	<41.0	ug/L	100	41.0	100		10/05/16 18:30	75-35-4	
cis-1,2-Dichloroethene	1740	ug/L	100	25.6	100		10/05/16 18:30	156-59-2	
trans-1,2-Dichloroethene	161	ug/L	100	25.7	100		10/05/16 18:30	156-60-5	
1,2-Dichloropropane	<23.3	ug/L	100	23.3	100		10/05/16 18:30	78-87-5	
1,3-Dichloropropane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	142-28-9	
2,2-Dichloropropane	<48.4	ug/L	100	48.4	100		10/05/16 18:30	594-20-7	
1,1-Dichloropropene	<44.1	ug/L	100	44.1	100		10/05/16 18:30	563-58-6	
cis-1,3-Dichloropropene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	10061-01-5	
trans-1,3-Dichloropropene	<23.0	ug/L	100	23.0	100		10/05/16 18:30	10061-02-6	
Diisopropyl ether	<50.0	ug/L	100	50.0	100		10/05/16 18:30	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: **IC07-TW-SE10-TOS-DUP** Lab ID: **40139248014** Collected: 09/26/16 09:29 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Ethylbenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	100-41-4	
Hexachloro-1,3-butadiene	<211	ug/L	500	211	100		10/05/16 18:30	87-68-3	
Isopropylbenzene (Cumene)	<14.3	ug/L	100	14.3	100		10/05/16 18:30	98-82-8	
p-Isopropyltoluene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	99-87-6	
Methylene Chloride	31.0J	ug/L	100	23.3	100		10/05/16 18:30	75-09-2	
Methyl-tert-butyl ether	<17.4	ug/L	100	17.4	100		10/05/16 18:30	1634-04-4	
Naphthalene	<250	ug/L	500	250	100		10/05/16 18:30	91-20-3	
n-Propylbenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	103-65-1	
Styrene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	100-42-5	
1,1,1,2-Tetrachloroethane	<18.1	ug/L	100	18.1	100		10/05/16 18:30	630-20-6	
1,1,2,2-Tetrachloroethane	<24.9	ug/L	100	24.9	100		10/05/16 18:30	79-34-5	
Tetrachloroethene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	127-18-4	
Toluene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	108-88-3	
1,2,3-Trichlorobenzene	<213	ug/L	500	213	100		10/05/16 18:30	87-61-6	
1,2,4-Trichlorobenzene	<221	ug/L	500	221	100		10/05/16 18:30	120-82-1	
1,1,1-Trichloroethane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	71-55-6	
1,1,2-Trichloroethane	<19.7	ug/L	100	19.7	100		10/05/16 18:30	79-00-5	
Trichloroethene	15800	ug/L	100	33.1	100		10/05/16 18:30	79-01-6	
Trichlorofluoromethane	<18.5	ug/L	100	18.5	100		10/05/16 18:30	75-69-4	
1,2,3-Trichloropropane	<50.0	ug/L	100	50.0	100		10/05/16 18:30	96-18-4	
1,2,4-Trimethylbenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	95-63-6	
1,3,5-Trimethylbenzene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	108-67-8	
Vinyl chloride	81.2J	ug/L	100	17.6	100		10/05/16 18:30	75-01-4	
m&p-Xylene	<100	ug/L	200	100	100		10/05/16 18:30	179601-23-1	
o-Xylene	<50.0	ug/L	100	50.0	100		10/05/16 18:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		100		10/05/16 18:30	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		100		10/05/16 18:30	1868-53-7	
Toluene-d8 (S)	96	%	70-130		100		10/05/16 18:30	2037-26-5	
300.0 IC Anions 28 Days									
Analytical Method: EPA 300.0									
Chloride	178	mg/L	40.0	20.0	10		10/05/16 23:57	16887-00-6	
Sulfate	462	mg/L	40.0	20.0	10		10/05/16 23:57	14808-79-8	
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	14.9	mg/L	8.4	2.5	10		10/06/16 15:32	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: **IC07-TW-NE10-TOS** Lab ID: **40139248015** Collected: 09/26/16 10:39 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	868	ug/L	100	12.9	1		09/30/16 17:32	7439-89-6	
Manganese, Dissolved	306	ug/L	5.0	1.4	1		09/30/16 17:32	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	107	ug/L	1.0	0.062	1	10/03/16 08:59	10/06/16 23:11	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/03/16 08:59	10/06/16 23:11	7440-47-3	
Lead	0.041J	ug/L	1.0	0.040	1	10/03/16 08:59	10/06/16 23:11	7439-92-1	
Nickel	8.1	ug/L	1.0	0.11	1	10/03/16 08:59	10/06/16 23:11	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	71-43-2	
Bromobenzene	<11.5	ug/L	50.0	11.5	50		10/05/16 17:47	108-86-1	
Bromochloromethane	<17.0	ug/L	50.0	17.0	50		10/05/16 17:47	74-97-5	
Bromodichloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	75-27-4	
Bromoform	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	75-25-2	
Bromomethane	<122	ug/L	250	122	50		10/05/16 17:47	74-83-9	
n-Butylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	104-51-8	
sec-Butylbenzene	<109	ug/L	250	109	50		10/05/16 17:47	135-98-8	
tert-Butylbenzene	<9.0	ug/L	50.0	9.0	50		10/05/16 17:47	98-06-6	
Carbon tetrachloride	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	56-23-5	
Chlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	108-90-7	
Chloroethane	<18.7	ug/L	50.0	18.7	50		10/05/16 17:47	75-00-3	
Chloroform	<125	ug/L	250	125	50		10/05/16 17:47	67-66-3	
Chloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	74-87-3	
2-Chlorotoluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	95-49-8	
4-Chlorotoluene	<10.7	ug/L	50.0	10.7	50		10/05/16 17:47	106-43-4	
1,2-Dibromo-3-chloropropane	<108	ug/L	250	108	50		10/05/16 17:47	96-12-8	
Dibromochloromethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	124-48-1	
1,2-Dibromoethane (EDB)	<8.9	ug/L	50.0	8.9	50		10/05/16 17:47	106-93-4	
Dibromomethane	<21.3	ug/L	50.0	21.3	50		10/05/16 17:47	74-95-3	
1,2-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	95-50-1	
1,3-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	541-73-1	
1,4-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	106-46-7	
Dichlorodifluoromethane	<11.2	ug/L	50.0	11.2	50		10/05/16 17:47	75-71-8	
1,1-Dichloroethane	<12.1	ug/L	50.0	12.1	50		10/05/16 17:47	75-34-3	
1,2-Dichloroethane	<8.4	ug/L	50.0	8.4	50		10/05/16 17:47	107-06-2	
1,1-Dichloroethene	<20.5	ug/L	50.0	20.5	50		10/05/16 17:47	75-35-4	
cis-1,2-Dichloroethene	3600	ug/L	50.0	12.8	50		10/05/16 17:47	156-59-2	
trans-1,2-Dichloroethene	236	ug/L	50.0	12.8	50		10/05/16 17:47	156-60-5	
1,2-Dichloropropane	<11.7	ug/L	50.0	11.7	50		10/05/16 17:47	78-87-5	
1,3-Dichloropropane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	142-28-9	
2,2-Dichloropropane	<24.2	ug/L	50.0	24.2	50		10/05/16 17:47	594-20-7	
1,1-Dichloropropene	<22.1	ug/L	50.0	22.1	50		10/05/16 17:47	563-58-6	
cis-1,3-Dichloropropene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	10061-01-5	
trans-1,3-Dichloropropene	<11.5	ug/L	50.0	11.5	50		10/05/16 17:47	10061-02-6	
Diisopropyl ether	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: IC07-TW-NE10-TOS **Lab ID: 40139248015** Collected: 09/26/16 10:39 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	100-41-4	
Hexachloro-1,3-butadiene	<105	ug/L	250	105	50		10/05/16 17:47	87-68-3	
Isopropylbenzene (Cumene)	<7.2	ug/L	50.0	7.2	50		10/05/16 17:47	98-82-8	
p-Isopropyltoluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	99-87-6	
Methylene Chloride	15.8J	ug/L	50.0	11.6	50		10/05/16 17:47	75-09-2	
Methyl-tert-butyl ether	<8.7	ug/L	50.0	8.7	50		10/05/16 17:47	1634-04-4	
Naphthalene	<125	ug/L	250	125	50		10/05/16 17:47	91-20-3	
n-Propylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	103-65-1	
Styrene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	100-42-5	
1,1,1,2-Tetrachloroethane	<9.0	ug/L	50.0	9.0	50		10/05/16 17:47	630-20-6	
1,1,2,2-Tetrachloroethane	<12.5	ug/L	50.0	12.5	50		10/05/16 17:47	79-34-5	
Tetrachloroethene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	127-18-4	
Toluene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	108-88-3	
1,2,3-Trichlorobenzene	<107	ug/L	250	107	50		10/05/16 17:47	87-61-6	
1,2,4-Trichlorobenzene	<110	ug/L	250	110	50		10/05/16 17:47	120-82-1	
1,1,1-Trichloroethane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	71-55-6	
1,1,2-Trichloroethane	<9.9	ug/L	50.0	9.9	50		10/05/16 17:47	79-00-5	
Trichloroethene	9660	ug/L	50.0	16.5	50		10/05/16 17:47	79-01-6	
Trichlorofluoromethane	<9.2	ug/L	50.0	9.2	50		10/05/16 17:47	75-69-4	
1,2,3-Trichloropropane	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	96-18-4	
1,2,4-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	95-63-6	
1,3,5-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	108-67-8	
Vinyl chloride	46.7J	ug/L	50.0	8.8	50		10/05/16 17:47	75-01-4	
m&p-Xylene	<50.0	ug/L	100	50.0	50		10/05/16 17:47	179601-23-1	
o-Xylene	<25.0	ug/L	50.0	25.0	50		10/05/16 17:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		50		10/05/16 17:47	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		50		10/05/16 17:47	1868-53-7	
Toluene-d8 (S)	98	%	70-130		50		10/05/16 17:47	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	177	mg/L	40.0	20.0	10		10/06/16 00:30	16887-00-6	
Sulfate	494	mg/L	200	100	50		10/06/16 10:05	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	12.6	mg/L	8.4	2.5	10		10/06/16 15:51	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: IC07-TW-NE10-BOS **Lab ID: 40139248016** Collected: 09/26/16 10:49 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Iron, Dissolved	1060	ug/L	100	12.9	1		09/30/16 17:35	7439-89-6	
Manganese, Dissolved	240	ug/L	5.0	1.4	1		09/30/16 17:35	7439-96-5	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	104	ug/L	1.0	0.062	1	10/04/16 08:59	10/08/16 06:37	7440-39-3	
Chromium	0.98J	ug/L	1.0	0.39	1	10/04/16 08:59	10/11/16 11:53	7440-47-3	
Lead	0.52J	ug/L	1.0	0.040	1	10/04/16 08:59	10/08/16 06:37	7439-92-1	
Nickel	7.9	ug/L	1.0	0.11	1	10/04/16 08:59	10/11/16 11:53	7440-02-0	
8260 MSV Analytical Method: EPA 8260									
Benzene	<100	ug/L	200	100	200		10/06/16 09:29	71-43-2	
Bromobenzene	<46.0	ug/L	200	46.0	200		10/06/16 09:29	108-86-1	
Bromochloromethane	<68.1	ug/L	200	68.1	200		10/06/16 09:29	74-97-5	
Bromodichloromethane	<100	ug/L	200	100	200		10/06/16 09:29	75-27-4	
Bromoform	<100	ug/L	200	100	200		10/06/16 09:29	75-25-2	
Bromomethane	<487	ug/L	1000	487	200		10/06/16 09:29	74-83-9	
n-Butylbenzene	<100	ug/L	200	100	200		10/06/16 09:29	104-51-8	
sec-Butylbenzene	<437	ug/L	1000	437	200		10/06/16 09:29	135-98-8	
tert-Butylbenzene	<36.1	ug/L	200	36.1	200		10/06/16 09:29	98-06-6	
Carbon tetrachloride	<100	ug/L	200	100	200		10/06/16 09:29	56-23-5	
Chlorobenzene	<100	ug/L	200	100	200		10/06/16 09:29	108-90-7	
Chloroethane	<74.9	ug/L	200	74.9	200		10/06/16 09:29	75-00-3	
Chloroform	<500	ug/L	1000	500	200		10/06/16 09:29	67-66-3	
Chloromethane	<100	ug/L	200	100	200		10/06/16 09:29	74-87-3	
2-Chlorotoluene	<100	ug/L	200	100	200		10/06/16 09:29	95-49-8	
4-Chlorotoluene	<42.7	ug/L	200	42.7	200		10/06/16 09:29	106-43-4	
1,2-Dibromo-3-chloropropane	<433	ug/L	1000	433	200		10/06/16 09:29	96-12-8	
Dibromochloromethane	<100	ug/L	200	100	200		10/06/16 09:29	124-48-1	
1,2-Dibromoethane (EDB)	<35.6	ug/L	200	35.6	200		10/06/16 09:29	106-93-4	
Dibromomethane	<85.3	ug/L	200	85.3	200		10/06/16 09:29	74-95-3	
1,2-Dichlorobenzene	<100	ug/L	200	100	200		10/06/16 09:29	95-50-1	
1,3-Dichlorobenzene	<100	ug/L	200	100	200		10/06/16 09:29	541-73-1	
1,4-Dichlorobenzene	<100	ug/L	200	100	200		10/06/16 09:29	106-46-7	
Dichlorodifluoromethane	<44.8	ug/L	200	44.8	200		10/06/16 09:29	75-71-8	
1,1-Dichloroethane	<48.3	ug/L	200	48.3	200		10/06/16 09:29	75-34-3	
1,2-Dichloroethane	<33.6	ug/L	200	33.6	200		10/06/16 09:29	107-06-2	
1,1-Dichloroethene	<82.0	ug/L	200	82.0	200		10/06/16 09:29	75-35-4	
cis-1,2-Dichloroethene	7970	ug/L	200	51.2	200		10/06/16 09:29	156-59-2	
trans-1,2-Dichloroethene	436	ug/L	200	51.3	200		10/06/16 09:29	156-60-5	
1,2-Dichloropropane	<46.6	ug/L	200	46.6	200		10/06/16 09:29	78-87-5	
1,3-Dichloropropane	<100	ug/L	200	100	200		10/06/16 09:29	142-28-9	
2,2-Dichloropropane	<96.8	ug/L	200	96.8	200		10/06/16 09:29	594-20-7	
1,1-Dichloropropene	<88.2	ug/L	200	88.2	200		10/06/16 09:29	563-58-6	
cis-1,3-Dichloropropene	<100	ug/L	200	100	200		10/06/16 09:29	10061-01-5	
trans-1,3-Dichloropropene	<45.9	ug/L	200	45.9	200		10/06/16 09:29	10061-02-6	
Diisopropyl ether	<100	ug/L	200	100	200		10/06/16 09:29	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: IC07-TW-NE10-BOS **Lab ID:** 40139248016 Collected: 09/26/16 10:49 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<100	ug/L	200	100	200		10/06/16 09:29	100-41-4	
Hexachloro-1,3-butadiene	<421	ug/L	1000	421	200		10/06/16 09:29	87-68-3	
Isopropylbenzene (Cumene)	<28.7	ug/L	200	28.7	200		10/06/16 09:29	98-82-8	
p-Isopropyltoluene	<100	ug/L	200	100	200		10/06/16 09:29	99-87-6	
Methylene Chloride	<46.5	ug/L	200	46.5	200		10/06/16 09:29	75-09-2	
Methyl-tert-butyl ether	<34.8	ug/L	200	34.8	200		10/06/16 09:29	1634-04-4	
Naphthalene	<500	ug/L	1000	500	200		10/06/16 09:29	91-20-3	
n-Propylbenzene	<100	ug/L	200	100	200		10/06/16 09:29	103-65-1	
Styrene	<100	ug/L	200	100	200		10/06/16 09:29	100-42-5	
1,1,1,2-Tetrachloroethane	<36.1	ug/L	200	36.1	200		10/06/16 09:29	630-20-6	
1,1,2,2-Tetrachloroethane	<49.9	ug/L	200	49.9	200		10/06/16 09:29	79-34-5	
Tetrachloroethene	<100	ug/L	200	100	200		10/06/16 09:29	127-18-4	
Toluene	<100	ug/L	200	100	200		10/06/16 09:29	108-88-3	
1,2,3-Trichlorobenzene	<427	ug/L	1000	427	200		10/06/16 09:29	87-61-6	
1,2,4-Trichlorobenzene	<442	ug/L	1000	442	200		10/06/16 09:29	120-82-1	
1,1,1-Trichloroethane	<100	ug/L	200	100	200		10/06/16 09:29	71-55-6	
1,1,2-Trichloroethane	<39.5	ug/L	200	39.5	200		10/06/16 09:29	79-00-5	
Trichloroethene	24800	ug/L	200	66.1	200		10/06/16 09:29	79-01-6	
Trichlorofluoromethane	<37.0	ug/L	200	37.0	200		10/06/16 09:29	75-69-4	
1,2,3-Trichloropropane	<100	ug/L	200	100	200		10/06/16 09:29	96-18-4	
1,2,4-Trimethylbenzene	<100	ug/L	200	100	200		10/06/16 09:29	95-63-6	
1,3,5-Trimethylbenzene	<100	ug/L	200	100	200		10/06/16 09:29	108-67-8	
Vinyl chloride	<35.1	ug/L	200	35.1	200		10/06/16 09:29	75-01-4	
m&p-Xylene	<200	ug/L	400	200	200		10/06/16 09:29	179601-23-1	
o-Xylene	<100	ug/L	200	100	200		10/06/16 09:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		200		10/06/16 09:29	460-00-4	
Dibromofluoromethane (S)	97	%	70-130		200		10/06/16 09:29	1868-53-7	
Toluene-d8 (S)	97	%	70-130		200		10/06/16 09:29	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	207	mg/L	40.0	20.0	10		10/06/16 02:05	16887-00-6	
Sulfate	463	mg/L	80.0	40.0	20		10/06/16 09:32	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	12.2	mg/L	8.4	2.5	10		10/06/16 16:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: **IC07-TW-SE10-BOS** Lab ID: **40139248017** Collected: 09/26/16 09:17 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Iron, Dissolved	1780	ug/L	100	12.9	1		09/30/16 17:37	7439-89-6	
Manganese, Dissolved	238	ug/L	5.0	1.4	1		09/30/16 17:37	7439-96-5	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	120	ug/L	1.0	0.062	1	10/04/16 08:59	10/08/16 07:05	7440-39-3	
Chromium	0.69J	ug/L	1.0	0.39	1	10/04/16 08:59	10/11/16 12:20	7440-47-3	
Lead	0.21J	ug/L	1.0	0.040	1	10/04/16 08:59	10/08/16 07:05	7439-92-1	
Nickel	6.6	ug/L	1.0	0.11	1	10/04/16 08:59	10/11/16 12:20	7440-02-0	
8260 MSV Analytical Method: EPA 8260									
Benzene	<500	ug/L	1000	500	1000		10/06/16 09:51	71-43-2	
Bromobenzene	<230	ug/L	1000	230	1000		10/06/16 09:51	108-86-1	
Bromochloromethane	<340	ug/L	1000	340	1000		10/06/16 09:51	74-97-5	
Bromodichloromethane	<500	ug/L	1000	500	1000		10/06/16 09:51	75-27-4	
Bromoform	<500	ug/L	1000	500	1000		10/06/16 09:51	75-25-2	
Bromomethane	<2430	ug/L	5000	2430	1000		10/06/16 09:51	74-83-9	
n-Butylbenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	104-51-8	
sec-Butylbenzene	<2190	ug/L	5000	2190	1000		10/06/16 09:51	135-98-8	
tert-Butylbenzene	<180	ug/L	1000	180	1000		10/06/16 09:51	98-06-6	
Carbon tetrachloride	<500	ug/L	1000	500	1000		10/06/16 09:51	56-23-5	
Chlorobenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	108-90-7	
Chloroethane	<375	ug/L	1000	375	1000		10/06/16 09:51	75-00-3	
Chloroform	<2500	ug/L	5000	2500	1000		10/06/16 09:51	67-66-3	
Chloromethane	<500	ug/L	1000	500	1000		10/06/16 09:51	74-87-3	
2-Chlorotoluene	<500	ug/L	1000	500	1000		10/06/16 09:51	95-49-8	
4-Chlorotoluene	<214	ug/L	1000	214	1000		10/06/16 09:51	106-43-4	
1,2-Dibromo-3-chloropropane	<2160	ug/L	5000	2160	1000		10/06/16 09:51	96-12-8	
Dibromochloromethane	<500	ug/L	1000	500	1000		10/06/16 09:51	124-48-1	
1,2-Dibromoethane (EDB)	<178	ug/L	1000	178	1000		10/06/16 09:51	106-93-4	
Dibromomethane	<427	ug/L	1000	427	1000		10/06/16 09:51	74-95-3	
1,2-Dichlorobenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	95-50-1	
1,3-Dichlorobenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	541-73-1	
1,4-Dichlorobenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	106-46-7	
Dichlorodifluoromethane	<224	ug/L	1000	224	1000		10/06/16 09:51	75-71-8	
1,1-Dichloroethane	<242	ug/L	1000	242	1000		10/06/16 09:51	75-34-3	
1,2-Dichloroethane	<168	ug/L	1000	168	1000		10/06/16 09:51	107-06-2	
1,1-Dichloroethene	<410	ug/L	1000	410	1000		10/06/16 09:51	75-35-4	
cis-1,2-Dichloroethene	6100	ug/L	1000	256	1000		10/06/16 09:51	156-59-2	
trans-1,2-Dichloroethene	476J	ug/L	1000	257	1000		10/06/16 09:51	156-60-5	
1,2-Dichloropropane	<233	ug/L	1000	233	1000		10/06/16 09:51	78-87-5	
1,3-Dichloropropane	<500	ug/L	1000	500	1000		10/06/16 09:51	142-28-9	
2,2-Dichloropropane	<484	ug/L	1000	484	1000		10/06/16 09:51	594-20-7	
1,1-Dichloropropene	<441	ug/L	1000	441	1000		10/06/16 09:51	563-58-6	
cis-1,3-Dichloropropene	<500	ug/L	1000	500	1000		10/06/16 09:51	10061-01-5	
trans-1,3-Dichloropropene	<230	ug/L	1000	230	1000		10/06/16 09:51	10061-02-6	
Diisopropyl ether	<500	ug/L	1000	500	1000		10/06/16 09:51	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: **IC07-TW-SE10-BOS** Lab ID: **40139248017** Collected: 09/26/16 09:17 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	100-41-4	
Hexachloro-1,3-butadiene	<2110	ug/L	5000	2110	1000		10/06/16 09:51	87-68-3	
Isopropylbenzene (Cumene)	<143	ug/L	1000	143	1000		10/06/16 09:51	98-82-8	
p-Isopropyltoluene	<500	ug/L	1000	500	1000		10/06/16 09:51	99-87-6	
Methylene Chloride	<233	ug/L	1000	233	1000		10/06/16 09:51	75-09-2	
Methyl-tert-butyl ether	<174	ug/L	1000	174	1000		10/06/16 09:51	1634-04-4	
Naphthalene	<2500	ug/L	5000	2500	1000		10/06/16 09:51	91-20-3	
n-Propylbenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	103-65-1	
Styrene	<500	ug/L	1000	500	1000		10/06/16 09:51	100-42-5	
1,1,1,2-Tetrachloroethane	<181	ug/L	1000	181	1000		10/06/16 09:51	630-20-6	
1,1,2,2-Tetrachloroethane	<249	ug/L	1000	249	1000		10/06/16 09:51	79-34-5	
Tetrachloroethene	<500	ug/L	1000	500	1000		10/06/16 09:51	127-18-4	
Toluene	<500	ug/L	1000	500	1000		10/06/16 09:51	108-88-3	
1,2,3-Trichlorobenzene	<2130	ug/L	5000	2130	1000		10/06/16 09:51	87-61-6	
1,2,4-Trichlorobenzene	<2210	ug/L	5000	2210	1000		10/06/16 09:51	120-82-1	
1,1,1-Trichloroethane	<500	ug/L	1000	500	1000		10/06/16 09:51	71-55-6	
1,1,2-Trichloroethane	<197	ug/L	1000	197	1000		10/06/16 09:51	79-00-5	
Trichloroethene	66600	ug/L	1000	331	1000		10/06/16 09:51	79-01-6	
Trichlorofluoromethane	<185	ug/L	1000	185	1000		10/06/16 09:51	75-69-4	
1,2,3-Trichloropropane	<500	ug/L	1000	500	1000		10/06/16 09:51	96-18-4	
1,2,4-Trimethylbenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	95-63-6	
1,3,5-Trimethylbenzene	<500	ug/L	1000	500	1000		10/06/16 09:51	108-67-8	
Vinyl chloride	<176	ug/L	1000	176	1000		10/06/16 09:51	75-01-4	
m&p-Xylene	<1000	ug/L	2000	1000	1000		10/06/16 09:51	179601-23-1	
o-Xylene	<500	ug/L	1000	500	1000		10/06/16 09:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1000		10/06/16 09:51	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		1000		10/06/16 09:51	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1000		10/06/16 09:51	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	203	mg/L	40.0	20.0	10		10/06/16 02:37	16887-00-6	
Sulfate	531	mg/L	40.0	20.0	10		10/06/16 02:37	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	12.4	mg/L	8.4	2.5	10		10/06/16 16:28	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40139248

Sample: CS3-PZ-354 **Lab ID: 40139248018** Collected: 09/26/16 10:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Iron, Dissolved	48.6J	ug/L	100	12.9	1		09/30/16 17:40	7439-89-6	
Manganese, Dissolved	14.9	ug/L	5.0	1.4	1		09/30/16 17:40	7439-96-5	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	131	ug/L	1.0	0.062	1	10/04/16 08:59	10/08/16 07:18	7440-39-3	
Chromium	0.56J	ug/L	1.0	0.39	1	10/04/16 08:59	10/11/16 03:34	7440-47-3	
Lead	0.075J	ug/L	1.0	0.040	1	10/04/16 08:59	10/08/16 07:18	7439-92-1	
Nickel	1.2	ug/L	1.0	0.11	1	10/04/16 08:59	10/11/16 03:34	7440-02-0	
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/05/16 16:41	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/05/16 16:41	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/05/16 16:41	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 16:41	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/05/16 16:41	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/05/16 16:41	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/05/16 16:41	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/05/16 16:41	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/05/16 16:41	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/05/16 16:41	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/05/16 16:41	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/05/16 16:41	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		10/05/16 16:41	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/05/16 16:41	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		10/05/16 16:41	75-35-4	
cis-1,2-Dichloroethene	0.65J	ug/L	1.0	0.26	1		10/05/16 16:41	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/05/16 16:41	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/05/16 16:41	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/05/16 16:41	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/05/16 16:41	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/05/16 16:41	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-PZ-354 **Lab ID: 40139248018** Collected: 09/26/16 10:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/05/16 16:41	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/05/16 16:41	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/05/16 16:41	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		10/05/16 16:41	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/05/16 16:41	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/05/16 16:41	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/05/16 16:41	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/05/16 16:41	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 16:41	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/05/16 16:41	79-00-5	
Trichloroethene	0.45J	ug/L	1.0	0.33	1		10/05/16 16:41	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/05/16 16:41	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		10/05/16 16:41	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/05/16 16:41	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/05/16 16:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		1		10/05/16 16:41	460-00-4	
Dibromofluoromethane (S)	96	%	70-130		1		10/05/16 16:41	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/05/16 16:41	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	130	mg/L	40.0	20.0	10		10/06/16 02:48	16887-00-6	
Sulfate	141	mg/L	40.0	20.0	10		10/06/16 02:48	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		10/06/16 17:45	7440-44-0	D3

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-354 **Lab ID: 40139248019** Collected: 09/26/16 11:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	416	ug/L	100	12.9	1		09/30/16 17:42	7439-89-6	
Manganese, Dissolved	274	ug/L	5.0	1.4	1		09/30/16 17:42	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	67.1	ug/L	1.0	0.062	1	10/04/16 08:59	10/08/16 07:25	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/04/16 08:59	10/11/16 03:40	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/04/16 08:59	10/08/16 07:25	7439-92-1	
Nickel	2.7	ug/L	1.0	0.11	1	10/04/16 08:59	10/11/16 03:40	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		10/05/16 10:42	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		10/05/16 10:42	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		10/05/16 10:42	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		10/05/16 10:42	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		10/05/16 10:42	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		10/05/16 10:42	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		10/05/16 10:42	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		10/05/16 10:42	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		10/05/16 10:42	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		10/05/16 10:42	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		10/05/16 10:42	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		10/05/16 10:42	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		10/05/16 10:42	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		10/05/16 10:42	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		10/05/16 10:42	75-35-4	
cis-1,2-Dichloroethene	248	ug/L	4.0	1.0	4		10/05/16 10:42	156-59-2	
trans-1,2-Dichloroethene	12.5	ug/L	4.0	1.0	4		10/05/16 10:42	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		10/05/16 10:42	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		10/05/16 10:42	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		10/05/16 10:42	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		10/05/16 10:42	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-354 **Lab ID: 40139248019** Collected: 09/26/16 11:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		10/05/16 10:42	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		10/05/16 10:42	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	99-87-6	
Methylene Chloride	1.1J	ug/L	4.0	0.93	4		10/05/16 10:42	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		10/05/16 10:42	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		10/05/16 10:42	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		10/05/16 10:42	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		10/05/16 10:42	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		10/05/16 10:42	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		10/05/16 10:42	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		10/05/16 10:42	79-00-5	
Trichloroethene	43.2	ug/L	4.0	1.3	4		10/05/16 10:42	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		10/05/16 10:42	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	108-67-8	
Vinyl chloride	101	ug/L	4.0	0.70	4		10/05/16 10:42	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		10/05/16 10:42	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		10/05/16 10:42	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		4		10/05/16 10:42	460-00-4	
Dibromofluoromethane (S)	98	%	70-130		4		10/05/16 10:42	1868-53-7	
Toluene-d8 (S)	98	%	70-130		4		10/05/16 10:42	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	37.5J	mg/L	40.0	20.0	10		10/06/16 02:58	16887-00-6	D3
Sulfate	117	mg/L	40.0	20.0	10		10/06/16 02:58	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	6.1	mg/L	2.5	0.76	3		10/06/16 18:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-354 DUP **Lab ID:** 40139248020 Collected: 09/26/16 11:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	407	ug/L	100	12.9	1		09/30/16 17:44	7439-89-6	
Manganese, Dissolved	273	ug/L	5.0	1.4	1		09/30/16 17:44	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	67.6	ug/L	1.0	0.062	1	10/04/16 08:59	10/08/16 07:45	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	10/04/16 08:59	10/11/16 04:01	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	10/04/16 08:59	10/08/16 07:45	7439-92-1	
Nickel	2.6	ug/L	1.0	0.11	1	10/04/16 08:59	10/11/16 04:01	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		10/05/16 12:32	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		10/05/16 12:32	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		10/05/16 12:32	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		10/05/16 12:32	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		10/05/16 12:32	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		10/05/16 12:32	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		10/05/16 12:32	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		10/05/16 12:32	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		10/05/16 12:32	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		10/05/16 12:32	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		10/05/16 12:32	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		10/05/16 12:32	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 12:32	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		10/05/16 12:32	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		10/05/16 12:32	75-35-4	
cis-1,2-Dichloroethene	205	ug/L	5.0	1.3	5		10/05/16 12:32	156-59-2	
trans-1,2-Dichloroethene	10.1	ug/L	5.0	1.3	5		10/05/16 12:32	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		10/05/16 12:32	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		10/05/16 12:32	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		10/05/16 12:32	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		10/05/16 12:32	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	108-20-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: CS3-MW-354 DUP Lab ID: 40139248020 Collected: 09/26/16 11:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		10/05/16 12:32	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		10/05/16 12:32	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	99-87-6	
Methylene Chloride	<1.2	ug/L	5.0	1.2	5		10/05/16 12:32	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		10/05/16 12:32	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		10/05/16 12:32	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		10/05/16 12:32	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		10/05/16 12:32	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		10/05/16 12:32	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		10/05/16 12:32	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		10/05/16 12:32	79-00-5	
Trichloroethene	41.9	ug/L	5.0	1.7	5		10/05/16 12:32	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		10/05/16 12:32	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	108-67-8	
Vinyl chloride	85.6	ug/L	5.0	0.88	5		10/05/16 12:32	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		10/05/16 12:32	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		10/05/16 12:32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		5		10/05/16 12:32	460-00-4	
Dibromofluoromethane (S)	92	%	70-130		5		10/05/16 12:32	1868-53-7	
Toluene-d8 (S)	101	%	70-130		5		10/05/16 12:32	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	36.7J	mg/L	40.0	20.0	10		10/06/16 03:09	16887-00-6	D3
Sulfate	114	mg/L	40.0	20.0	10		10/06/16 03:09	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	6.3	mg/L	5.0	1.5	6		10/06/16 18:22	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: TRIP BLANK-ISCO Lab ID: 40139248021 Collected: 09/23/16 08:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		10/05/16 08:30	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		10/05/16 08:30	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		10/05/16 08:30	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 08:30	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		10/05/16 08:30	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		10/05/16 08:30	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		10/05/16 08:30	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		10/05/16 08:30	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		10/05/16 08:30	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		10/05/16 08:30	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		10/05/16 08:30	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		10/05/16 08:30	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		10/05/16 08:30	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		10/05/16 08:30	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		10/05/16 08:30	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/05/16 08:30	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		10/05/16 08:30	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		10/05/16 08:30	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		10/05/16 08:30	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		10/05/16 08:30	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		10/05/16 08:30	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		10/05/16 08:30	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		10/05/16 08:30	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		10/05/16 08:30	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		10/05/16 08:30	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		10/05/16 08:30	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		10/05/16 08:30	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40139248

Sample: TRIP BLANK-ISCO **Lab ID: 40139248021** Collected: 09/23/16 08:00 Received: 09/29/16 13:50 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		10/05/16 08:30	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		10/05/16 08:30	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		10/05/16 08:30	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		10/05/16 08:30	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		10/05/16 08:30	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		10/05/16 08:30	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		10/05/16 08:30	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		10/05/16 08:30	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		10/05/16 08:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	83	%	70-130		1		10/05/16 08:30	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		10/05/16 08:30	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		10/05/16 08:30	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

QC Batch: 236796 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015, 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

METHOD BLANK: 1403546 Matrix: Water
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015, 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<12.9	100	09/30/16 16:39	
Manganese, Dissolved	ug/L	<1.4	5.0	09/30/16 16:39	

LABORATORY CONTROL SAMPLE: 1403547

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	5080	102	80-120	
Manganese, Dissolved	ug/L	500	471	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403548 1403549

Parameter	Units	40139248001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron, Dissolved	ug/L	3200	5000	5000	8230	8270	101	101	75-125	0	20	
Manganese, Dissolved	ug/L	256	500	500	725	712	94	91	75-125	2	20	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

QC Batch: 236879 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015

METHOD BLANK: 1404391 Matrix: Water
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	<0.062	1.0	10/06/16 19:27	
Chromium	ug/L	<0.39	1.0	10/06/16 19:27	
Lead	ug/L	<0.040	1.0	10/06/16 19:27	
Nickel	ug/L	<0.11	1.0	10/06/16 19:27	

LABORATORY CONTROL SAMPLE: 1404392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	504	101	80-120	
Chromium	ug/L	500	498	100	80-120	
Lead	ug/L	500	500	100	80-120	
Nickel	ug/L	500	501	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404393 1404394

Parameter	Units	40139240001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MS Result	MSD Result	% Rec	% Rec				
Barium	ug/L	207	500	500	714	706	101	100	75-125	1	20		
Chromium	ug/L	0.77J	500	500	503	499	100	100	75-125	1	20		
Lead	ug/L	0.79J	500	500	517	516	103	103	75-125	0	20		
Nickel	ug/L	4.5	500	500	495	485	98	96	75-125	2	20		

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

QC Batch: 237037 Analysis Method: EPA 6020
QC Batch Method: EPA 3010 Analysis Description: 6020 MET
Associated Lab Samples: 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

METHOD BLANK: 1404772 Matrix: Water
Associated Lab Samples: 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	<0.062	1.0	10/08/16 06:24	
Chromium	ug/L	<0.39	1.0	10/11/16 11:39	
Lead	ug/L	<0.040	1.0	10/08/16 06:24	
Nickel	ug/L	<0.11	1.0	10/11/16 11:39	

LABORATORY CONTROL SAMPLE: 1404773

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	515	103	80-120	
Chromium	ug/L	500	498	100	80-120	
Lead	ug/L	500	508	102	80-120	
Nickel	ug/L	500	503	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404774 1404775

Parameter	Units	40139248016 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result						
Barium	ug/L	104	500	500	622	619	103	103	75-125	0	20	
Chromium	ug/L	0.98J	500	500	497	495	99	99	75-125	0	20	
Lead	ug/L	0.52J	500	500	518	518	103	104	75-125	0	20	
Nickel	ug/L	7.9	500	500	486	484	96	95	75-125	1	20	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

QC Batch: 236880 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
 Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007,
 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014,
 40139248015, 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

METHOD BLANK: 1404395 Matrix: Water

Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007,
 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014,
 40139248015, 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

Parameter	Units	Blank Reporting		Analyzed	Qualifiers
		Result	Limit		
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/05/16 07:03	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/05/16 07:03	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/05/16 07:03	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/05/16 07:03	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/05/16 07:03	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/05/16 07:03	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/05/16 07:03	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/05/16 07:03	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/05/16 07:03	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/05/16 07:03	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/05/16 07:03	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/05/16 07:03	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/05/16 07:03	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 07:03	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/05/16 07:03	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/05/16 07:03	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/05/16 07:03	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 07:03	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/05/16 07:03	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 07:03	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/05/16 07:03	
2-Chlorotoluene	ug/L	<0.50	1.0	10/05/16 07:03	
4-Chlorotoluene	ug/L	<0.21	1.0	10/05/16 07:03	
Benzene	ug/L	<0.50	1.0	10/05/16 07:03	
Bromobenzene	ug/L	<0.23	1.0	10/05/16 07:03	
Bromochloromethane	ug/L	<0.34	1.0	10/05/16 07:03	
Bromodichloromethane	ug/L	<0.50	1.0	10/05/16 07:03	
Bromoform	ug/L	<0.50	1.0	10/05/16 07:03	
Bromomethane	ug/L	<2.4	5.0	10/05/16 07:03	
Carbon tetrachloride	ug/L	<0.50	1.0	10/05/16 07:03	
Chlorobenzene	ug/L	<0.50	1.0	10/05/16 07:03	
Chloroethane	ug/L	<0.37	1.0	10/05/16 07:03	
Chloroform	ug/L	<2.5	5.0	10/05/16 07:03	
Chloromethane	ug/L	<0.50	1.0	10/05/16 07:03	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/05/16 07:03	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/05/16 07:03	
Dibromochloromethane	ug/L	<0.50	1.0	10/05/16 07:03	
Dibromomethane	ug/L	<0.43	1.0	10/05/16 07:03	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

METHOD BLANK: 1404395

Matrix: Water

Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015, 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/05/16 07:03	
Diisopropyl ether	ug/L	<0.50	1.0	10/05/16 07:03	
Ethylbenzene	ug/L	<0.50	1.0	10/05/16 07:03	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/05/16 07:03	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/05/16 07:03	
m&p-Xylene	ug/L	<1.0	2.0	10/05/16 07:03	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/05/16 07:03	
Methylene Chloride	ug/L	<0.23	1.0	10/05/16 07:03	
n-Butylbenzene	ug/L	<0.50	1.0	10/05/16 07:03	
n-Propylbenzene	ug/L	<0.50	1.0	10/05/16 07:03	
Naphthalene	ug/L	<2.5	5.0	10/05/16 07:03	
o-Xylene	ug/L	<0.50	1.0	10/05/16 07:03	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/05/16 07:03	
sec-Butylbenzene	ug/L	<2.2	5.0	10/05/16 07:03	
Styrene	ug/L	<0.50	1.0	10/05/16 07:03	
tert-Butylbenzene	ug/L	<0.18	1.0	10/05/16 07:03	
Tetrachloroethene	ug/L	<0.50	1.0	10/05/16 07:03	
Toluene	ug/L	<0.50	1.0	10/05/16 07:03	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/05/16 07:03	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/05/16 07:03	
Trichloroethene	ug/L	<0.33	1.0	10/05/16 07:03	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/05/16 07:03	
Vinyl chloride	ug/L	<0.18	1.0	10/05/16 07:03	
4-Bromofluorobenzene (S)	%	91	70-130	10/05/16 07:03	
Dibromofluoromethane (S)	%	94	70-130	10/05/16 07:03	
Toluene-d8 (S)	%	99	70-130	10/05/16 07:03	

LABORATORY CONTROL SAMPLE: 1404396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	48.1	96	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	51.9	104	67-130	
1,1,2-Trichloroethane	ug/L	50	50.6	101	70-130	
1,1-Dichloroethane	ug/L	50	39.8	80	70-133	
1,1-Dichloroethene	ug/L	50	36.8	74	70-130	
1,2,4-Trichlorobenzene	ug/L	50	47.8	96	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	47.6	95	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	52.9	106	70-130	
1,2-Dichlorobenzene	ug/L	50	52.6	105	70-130	
1,2-Dichloroethane	ug/L	50	46.1	92	70-130	
1,2-Dichloropropane	ug/L	50	48.8	98	70-130	
1,3-Dichlorobenzene	ug/L	50	52.8	106	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

LABORATORY CONTROL SAMPLE: 1404396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	51.0	102	70-130	
Benzene	ug/L	50	50.0	100	60-135	
Bromodichloromethane	ug/L	50	45.3	91	70-130	
Bromoform	ug/L	50	46.0	92	70-130	
Bromomethane	ug/L	50	31.2	62	33-130	
Carbon tetrachloride	ug/L	50	50.8	102	70-138	
Chlorobenzene	ug/L	50	54.0	108	70-130	
Chloroethane	ug/L	50	30.4	61	51-130	
Chloroform	ug/L	50	47.2	94	70-130	
Chloromethane	ug/L	50	29.2	58	25-132	
cis-1,2-Dichloroethene	ug/L	50	38.3	77	69-130	
cis-1,3-Dichloropropene	ug/L	50	42.5	85	70-130	
Dibromochloromethane	ug/L	50	53.2	106	70-130	
Dichlorodifluoromethane	ug/L	50	33.4	67	23-130	
Ethylbenzene	ug/L	50	55.1	110	70-136	
Isopropylbenzene (Cumene)	ug/L	50	55.4	111	70-140	
m&p-Xylene	ug/L	100	111	111	70-138	
Methyl-tert-butyl ether	ug/L	50	38.3	77	66-138	
Methylene Chloride	ug/L	50	39.0	78	70-130	
o-Xylene	ug/L	50	54.6	109	70-134	
Styrene	ug/L	50	50.6	101	70-133	
Tetrachloroethene	ug/L	50	55.3	111	70-138	
Toluene	ug/L	50	52.8	106	70-130	
trans-1,2-Dichloroethene	ug/L	50	39.2	78	70-131	
trans-1,3-Dichloropropene	ug/L	50	47.2	94	69-130	
Trichloroethene	ug/L	50	53.6	107	70-130	
Trichlorofluoromethane	ug/L	50	39.7	79	50-150	
Vinyl chloride	ug/L	50	38.8	78	49-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			94	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405792 1405793

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40139248001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<5.0	500	500	503	480	101	96	70-134	5	20	
1,1,2,2-Tetrachloroethane	ug/L	<2.5	500	500	498	486	100	97	67-130	2	20	
1,1,2-Trichloroethane	ug/L	<2.0	500	500	510	512	102	102	70-130	1	20	
1,1-Dichloroethane	ug/L	<2.4	500	500	465	394	93	79	70-134	17	20	
1,1-Dichloroethene	ug/L	<4.1	500	500	452	377	90	75	68-136	18	20	
1,2,4-Trichlorobenzene	ug/L	<22.1	500	500	481	435	96	87	62-139	10	20	
1,2-Dibromo-3-chloropropane	ug/L	<21.6	500	500	474	414	95	83	50-150	14	20	
1,2-Dibromoethane (EDB)	ug/L	<1.8	500	500	527	531	105	106	70-130	1	20	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

Parameter	Units	40139248001		1405792		1405793		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,2-Dichlorobenzene	ug/L	<5.0	500	500	513	512	103	102	70-130	0	20		
1,2-Dichloroethane	ug/L	<1.7	500	500	490	461	98	92	70-130	6	20		
1,2-Dichloropropane	ug/L	<2.3	500	500	497	498	99	100	70-130	0	20		
1,3-Dichlorobenzene	ug/L	<5.0	500	500	525	528	105	106	70-131	0	20		
1,4-Dichlorobenzene	ug/L	<5.0	500	500	506	502	101	100	70-130	1	20		
Benzene	ug/L	<5.0	500	500	519	501	104	100	57-138	3	20		
Bromodichloromethane	ug/L	<5.0	500	500	517	503	103	101	70-130	3	20		
Bromoform	ug/L	<5.0	500	500	465	473	93	95	70-130	2	20		
Bromomethane	ug/L	<24.3	500	500	386	317	77	63	33-130	20	27		
Carbon tetrachloride	ug/L	<5.0	500	500	530	508	106	102	70-138	4	20		
Chlorobenzene	ug/L	<5.0	500	500	544	542	109	108	70-130	0	20		
Chloroethane	ug/L	<3.7	500	500	372	304	74	61	51-130	20	20		
Chloroform	ug/L	<25.0	500	500	500	476	100	95	70-130	5	20		
Chloromethane	ug/L	<5.0	500	500	349	278	70	56	25-132	23	20	R1	
cis-1,2-Dichloroethene	ug/L	850	500	500	1490	1260	129	83	61-140	17	20		
cis-1,3-Dichloropropene	ug/L	<5.0	500	500	473	479	95	96	70-130	1	20		
Dibromochloromethane	ug/L	<5.0	500	500	532	525	106	105	70-130	1	20		
Dichlorodifluoromethane	ug/L	<2.2	500	500	387	326	77	65	23-130	17	20		
Ethylbenzene	ug/L	<5.0	500	500	544	544	109	109	70-138	0	20		
Isopropylbenzene (Cumene)	ug/L	<1.4	500	500	550	548	110	110	70-152	0	20		
m&p-Xylene	ug/L	<10.0	1000	1000	1110	1090	111	109	70-140	2	20		
Methyl-tert-butyl ether	ug/L	<1.7	500	500	454	380	91	76	66-139	18	20		
Methylene Chloride	ug/L	<2.3	500	500	471	379	94	76	70-130	22	20	R1	
o-Xylene	ug/L	<5.0	500	500	542	545	108	109	70-134	1	20		
Styrene	ug/L	<5.0	500	500	512	496	102	99	70-138	3	20		
Tetrachloroethene	ug/L	<5.0	500	500	546	570	109	114	70-148	4	20		
Toluene	ug/L	<5.0	500	500	535	535	107	107	70-130	0	20		
trans-1,2-Dichloroethene	ug/L	70.0	500	500	569	464	100	79	70-133	20	20		
trans-1,3-Dichloropropene	ug/L	<2.3	500	500	480	473	96	95	69-130	1	20		
Trichloroethene	ug/L	342	500	500	903	881	112	108	70-131	2	20		
Trichlorofluoromethane	ug/L	<1.8	500	500	483	388	97	78	50-150	22	20	R1	
Vinyl chloride	ug/L	173	500	500	692	577	104	81	49-133	18	20		
4-Bromofluorobenzene (S)	%						99	101	70-130				
Dibromofluoromethane (S)	%						100	94	70-130				
Toluene-d8 (S)	%						99	98	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

QC Batch: 236881 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40139248021

METHOD BLANK: 1404397 Matrix: Water
Associated Lab Samples: 40139248021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	10/05/16 06:16	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	10/05/16 06:16	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	10/05/16 06:16	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	10/05/16 06:16	
1,1-Dichloroethane	ug/L	<0.24	1.0	10/05/16 06:16	
1,1-Dichloroethene	ug/L	<0.41	1.0	10/05/16 06:16	
1,1-Dichloropropene	ug/L	<0.44	1.0	10/05/16 06:16	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	10/05/16 06:16	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	10/05/16 06:16	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	10/05/16 06:16	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	10/05/16 06:16	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	10/05/16 06:16	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	10/05/16 06:16	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 06:16	
1,2-Dichloroethane	ug/L	<0.17	1.0	10/05/16 06:16	
1,2-Dichloropropane	ug/L	<0.23	1.0	10/05/16 06:16	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	10/05/16 06:16	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 06:16	
1,3-Dichloropropane	ug/L	<0.50	1.0	10/05/16 06:16	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	10/05/16 06:16	
2,2-Dichloropropane	ug/L	<0.48	1.0	10/05/16 06:16	
2-Chlorotoluene	ug/L	<0.50	1.0	10/05/16 06:16	
4-Chlorotoluene	ug/L	<0.21	1.0	10/05/16 06:16	
Benzene	ug/L	<0.50	1.0	10/05/16 06:16	
Bromobenzene	ug/L	<0.23	1.0	10/05/16 06:16	
Bromochloromethane	ug/L	<0.34	1.0	10/05/16 06:16	
Bromodichloromethane	ug/L	<0.50	1.0	10/05/16 06:16	
Bromoform	ug/L	<0.50	1.0	10/05/16 06:16	
Bromomethane	ug/L	<2.4	5.0	10/05/16 06:16	
Carbon tetrachloride	ug/L	<0.50	1.0	10/05/16 06:16	
Chlorobenzene	ug/L	<0.50	1.0	10/05/16 06:16	
Chloroethane	ug/L	<0.37	1.0	10/05/16 06:16	
Chloroform	ug/L	<2.5	5.0	10/05/16 06:16	
Chloromethane	ug/L	<0.50	1.0	10/05/16 06:16	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	10/05/16 06:16	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	10/05/16 06:16	
Dibromochloromethane	ug/L	<0.50	1.0	10/05/16 06:16	
Dibromomethane	ug/L	<0.43	1.0	10/05/16 06:16	
Dichlorodifluoromethane	ug/L	<0.22	1.0	10/05/16 06:16	
Diisopropyl ether	ug/L	<0.50	1.0	10/05/16 06:16	
Ethylbenzene	ug/L	<0.50	1.0	10/05/16 06:16	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

METHOD BLANK: 1404397

Matrix: Water

Associated Lab Samples: 40139248021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	10/05/16 06:16	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	10/05/16 06:16	
m&p-Xylene	ug/L	<1.0	2.0	10/05/16 06:16	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	10/05/16 06:16	
Methylene Chloride	ug/L	<0.23	1.0	10/05/16 06:16	
n-Butylbenzene	ug/L	<0.50	1.0	10/05/16 06:16	
n-Propylbenzene	ug/L	<0.50	1.0	10/05/16 06:16	
Naphthalene	ug/L	<2.5	5.0	10/05/16 06:16	
o-Xylene	ug/L	<0.50	1.0	10/05/16 06:16	
p-Isopropyltoluene	ug/L	<0.50	1.0	10/05/16 06:16	
sec-Butylbenzene	ug/L	<2.2	5.0	10/05/16 06:16	
Styrene	ug/L	<0.50	1.0	10/05/16 06:16	
tert-Butylbenzene	ug/L	<0.18	1.0	10/05/16 06:16	
Tetrachloroethene	ug/L	<0.50	1.0	10/05/16 06:16	
Toluene	ug/L	<0.50	1.0	10/05/16 06:16	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	10/05/16 06:16	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	10/05/16 06:16	
Trichloroethene	ug/L	<0.33	1.0	10/05/16 06:16	
Trichlorofluoromethane	ug/L	<0.18	1.0	10/05/16 06:16	
Vinyl chloride	ug/L	<0.18	1.0	10/05/16 06:16	
4-Bromofluorobenzene (S)	%	84	70-130	10/05/16 06:16	
Dibromofluoromethane (S)	%	98	70-130	10/05/16 06:16	
Toluene-d8 (S)	%	98	70-130	10/05/16 06:16	

LABORATORY CONTROL SAMPLE: 1404398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.2	100	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	48.0	96	67-130	
1,1,2-Trichloroethane	ug/L	50	53.1	106	70-130	
1,1-Dichloroethane	ug/L	50	54.7	109	70-133	
1,1-Dichloroethene	ug/L	50	47.1	94	70-130	
1,2,4-Trichlorobenzene	ug/L	50	41.4	83	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	46.0	92	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	52.1	104	70-130	
1,2-Dichlorobenzene	ug/L	50	46.3	93	70-130	
1,2-Dichloroethane	ug/L	50	51.4	103	70-130	
1,2-Dichloropropane	ug/L	50	55.5	111	70-130	
1,3-Dichlorobenzene	ug/L	50	44.2	88	70-130	
1,4-Dichlorobenzene	ug/L	50	46.4	93	70-130	
Benzene	ug/L	50	48.8	98	60-135	
Bromodichloromethane	ug/L	50	54.6	109	70-130	
Bromoform	ug/L	50	48.7	97	70-130	
Bromomethane	ug/L	50	30.5	61	33-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

LABORATORY CONTROL SAMPLE: 1404398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	50	53.7	107	70-138	
Chlorobenzene	ug/L	50	52.1	104	70-130	
Chloroethane	ug/L	50	43.4	87	51-130	
Chloroform	ug/L	50	48.8	98	70-130	
Chloromethane	ug/L	50	30.5	61	25-132	
cis-1,2-Dichloroethene	ug/L	50	52.4	105	69-130	
cis-1,3-Dichloropropene	ug/L	50	37.0	74	70-130	
Dibromochloromethane	ug/L	50	53.9	108	70-130	
Dichlorodifluoromethane	ug/L	50	24.2	48	23-130	
Ethylbenzene	ug/L	50	51.7	103	70-136	
Isopropylbenzene (Cumene)	ug/L	50	54.4	109	70-140	
m&p-Xylene	ug/L	100	109	109	70-138	
Methyl-tert-butyl ether	ug/L	50	52.4	105	66-138	
Methylene Chloride	ug/L	50	51.7	103	70-130	
o-Xylene	ug/L	50	51.8	104	70-134	
Styrene	ug/L	50	52.5	105	70-133	
Tetrachloroethene	ug/L	50	49.9	100	70-138	
Toluene	ug/L	50	52.7	105	70-130	
trans-1,2-Dichloroethene	ug/L	50	51.0	102	70-131	
trans-1,3-Dichloropropene	ug/L	50	36.4	73	69-130	
Trichloroethene	ug/L	50	52.0	104	70-130	
Trichlorofluoromethane	ug/L	50	48.1	96	50-150	
Vinyl chloride	ug/L	50	41.4	83	49-130	
4-Bromofluorobenzene (S)	%			104	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405066 1405067

Parameter	Units	40139210006		MSD		MSD		% Rec	% Rec	% Rec	Limits	RPD	RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
1,1,1-Trichloroethane	ug/L	<0.50	50	50	60.8	54.8	122	110	70-134	10	20			
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	49.5	51.6	99	103	67-130	4	20			
1,1,2-Trichloroethane	ug/L	<0.20	50	50	55.7	57.8	111	116	70-130	4	20			
1,1-Dichloroethane	ug/L	<0.24	50	50	56.6	60.4	113	121	70-134	6	20			
1,1-Dichloroethene	ug/L	<0.41	50	50	61.0	55.3	122	111	68-136	10	20			
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	45.5	48.4	91	97	62-139	6	20			
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	46.9	49.1	94	98	50-150	5	20			
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	55.3	58.1	111	116	70-130	5	20			
1,2-Dichlorobenzene	ug/L	<0.50	50	50	48.1	50.2	96	100	70-130	4	20			
1,2-Dichloroethane	ug/L	<0.17	50	50	59.9	54.4	120	109	70-130	10	20			
1,2-Dichloropropane	ug/L	<0.23	50	50	58.1	59.5	116	119	70-130	2	20			
1,3-Dichlorobenzene	ug/L	<0.50	50	50	46.9	49.6	94	99	70-131	5	20			
1,4-Dichlorobenzene	ug/L	<0.50	50	50	48.7	51.0	97	102	70-130	5	20			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

Parameter	Units	40139210006		1405066		1405067		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Benzene	ug/L	<0.50	50	50	58.2	53.1	116	106	57-138	9	20		
Bromodichloromethane	ug/L	<0.50	50	50	57.3	59.2	115	118	70-130	3	20		
Bromoform	ug/L	<0.50	50	50	50.2	53.1	100	106	70-130	6	20		
Bromomethane	ug/L	<2.4	50	50	47.7	44.5	95	89	33-130	7	27		
Carbon tetrachloride	ug/L	<0.50	50	50	64.5	58.6	129	117	70-138	10	20		
Chlorobenzene	ug/L	<0.50	50	50	54.6	57.4	109	115	70-130	5	20		
Chloroethane	ug/L	<0.37	50	50	58.9	53.4	118	107	51-130	10	20		
Chloroform	ug/L	<2.5	50	50	54.9	51.9	110	104	70-130	6	20		
Chloromethane	ug/L	<0.50	50	50	45.1	44.0	90	88	25-132	2	20		
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	55.3	57.0	111	114	61-140	3	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	43.4	45.4	87	91	70-130	5	20		
Dibromochloromethane	ug/L	<0.50	50	50	56.9	59.3	114	119	70-130	4	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	42.2	38.7	84	77	23-130	9	20		
Ethylbenzene	ug/L	<0.50	50	50	54.5	58.0	109	116	70-138	6	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	57.0	60.4	114	121	70-152	6	20		
m&p-Xylene	ug/L		100	100	114	121	114	121	70-140	6	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	62.4	56.8	125	114	66-139	9	20		
Methylene Chloride	ug/L	<0.23	50	50	62.9	57.3	126	115	70-130	9	20		
o-Xylene	ug/L		50	50	54.2	59.4	108	119	70-134	9	20		
Styrene	ug/L	<0.50	50	50	54.8	59.0	110	118	70-138	7	20		
Tetrachloroethene	ug/L	<0.50	50	50	54.0	57.5	108	115	70-148	6	20		
Toluene	ug/L	<0.50	50	50	55.4	59.0	111	118	70-130	6	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	62.3	57.5	125	115	70-133	8	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	42.3	45.1	85	90	69-130	6	20		
Trichloroethene	ug/L	<0.33	50	50	54.7	56.7	109	113	70-131	4	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	63.4	57.9	127	116	50-150	9	20		
Vinyl chloride	ug/L	<0.18	50	50	60.2	56.0	120	112	49-133	7	20		
4-Bromofluorobenzene (S)	%						103	107	70-130				
Dibromofluoromethane (S)	%						112	98	70-130				
Toluene-d8 (S)	%						98	102	70-130				

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

QC Batch:	236893	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015		

METHOD BLANK:	1404449	Matrix:	Water
Associated Lab Samples:	40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<2.0	4.0	10/04/16 11:18	
Sulfate	mg/L	<2.0	4.0	10/04/16 11:18	

LABORATORY CONTROL SAMPLE:	1404450
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Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	18.6	93	90-110	
Sulfate	mg/L	20	19.3	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	1404451	1404452
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Parameter	Units	40139240001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	138	200	200	342	344	102	103	90-110	0	15	
Sulfate	mg/L	180	200	200	387	389	103	104	90-110	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	1404453	1404454
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Parameter	Units	40139248015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	177	200	200	388	390	106	106	90-110	0	15	
Sulfate	mg/L	494	1000	1000	1440	1460	95	97	90-110	2	15	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

QC Batch: 237046 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

METHOD BLANK: 1404814 Matrix: Water
 Associated Lab Samples: 40139248016, 40139248017, 40139248018, 40139248019, 40139248020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<2.0	4.0	10/06/16 01:23	
Sulfate	mg/L	<2.0	4.0	10/06/16 01:23	

LABORATORY CONTROL SAMPLE: 1404815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	18.8	94	90-110	
Sulfate	mg/L	20	19.2	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404816 1404817

Parameter	Units	40139248016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	207	200	200	411	408	102	101	90-110	1	15	
Sulfate	mg/L	463	400	400	866	870	101	102	90-110	0	15	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40139248

QC Batch: 236855 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015, 40139248016, 40139248017, 40139248018, 40139248019

METHOD BLANK: 1404295 Matrix: Water
Associated Lab Samples: 40139248001, 40139248002, 40139248003, 40139248004, 40139248005, 40139248006, 40139248007, 40139248008, 40139248009, 40139248010, 40139248011, 40139248012, 40139248013, 40139248014, 40139248015, 40139248016, 40139248017, 40139248018, 40139248019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	10/05/16 12:08	

LABORATORY CONTROL SAMPLE: 1404296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.6	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404297 1404298

Parameter	Units	40139248001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	21.2	20	20	46.3	48.3	125	136	80-120	4	10	M0

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404299 1404300

Parameter	Units	40139248002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	1.6J	3	3	3.6	3.7	66	69	80-120	3	10	M0

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40139248

QC Batch: 237154

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 40139248020

METHOD BLANK: 1405401

Matrix: Water

Associated Lab Samples: 40139248020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	10/06/16 16:47	

LABORATORY CONTROL SAMPLE: 1405402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.3	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405403 1405404

Parameter	Units	1405403		1405404		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40139313001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Total Organic Carbon	mg/L	4.4	2	2	6.0	6.0	81	81	80-120	0	10

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QUALIFIERS

Project: 60518412.1 KEP

Pace Project No.: 40139248

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412.1 KEP
Pace Project No.: 40139248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139248001	CS3-MW-302	EPA 6010	236796		
40139248002	ICO1-TW-SE7.5-BOS	EPA 6010	236796		
40139248003	ICO1-TW-SE7.5-TOS	EPA 6010	236796		
40139248004	CS3-PZ-302	EPA 6010	236796		
40139248005	ICO1-TW-SE5-TOS	EPA 6010	236796		
40139248006	ICO1-TW-SE5-BOS	EPA 6010	236796		
40139248007	ICO6-TW-NE7.5-TOS	EPA 6010	236796		
40139248008	ICO6-TW-NE7.5-BOS	EPA 6010	236796		
40139248009	ICO6-TW-NE5-TOS	EPA 6010	236796		
40139248010	ICO6-TW-NE5-BOS	EPA 6010	236796		
40139248011	CS3-PZ-317	EPA 6010	236796		
40139248012	CS3-MW-317	EPA 6010	236796		
40139248013	ICO7-TW-SE10-TOS	EPA 6010	236796		
40139248014	ICO7-TW-SE10-TOS-DUP	EPA 6010	236796		
40139248015	ICO7-TW-NE10-TOS	EPA 6010	236796		
40139248016	ICO7-TW-NE10-BOS	EPA 6010	236796		
40139248017	ICO7-TW-SE10-BOS	EPA 6010	236796		
40139248018	CS3-PZ-354	EPA 6010	236796		
40139248019	CS3-MW-354	EPA 6010	236796		
40139248020	CS3-MW-354 DUP	EPA 6010	236796		
40139248001	CS3-MW-302	EPA 3010	236879	EPA 6020	236972
40139248002	ICO1-TW-SE7.5-BOS	EPA 3010	236879	EPA 6020	236972
40139248003	ICO1-TW-SE7.5-TOS	EPA 3010	236879	EPA 6020	236972
40139248004	CS3-PZ-302	EPA 3010	236879	EPA 6020	236972
40139248005	ICO1-TW-SE5-TOS	EPA 3010	236879	EPA 6020	236972
40139248006	ICO1-TW-SE5-BOS	EPA 3010	236879	EPA 6020	236972
40139248007	ICO6-TW-NE7.5-TOS	EPA 3010	236879	EPA 6020	236972
40139248008	ICO6-TW-NE7.5-BOS	EPA 3010	236879	EPA 6020	236972
40139248009	ICO6-TW-NE5-TOS	EPA 3010	236879	EPA 6020	236972
40139248010	ICO6-TW-NE5-BOS	EPA 3010	236879	EPA 6020	236972
40139248011	CS3-PZ-317	EPA 3010	236879	EPA 6020	236972
40139248012	CS3-MW-317	EPA 3010	236879	EPA 6020	236972
40139248013	ICO7-TW-SE10-TOS	EPA 3010	236879	EPA 6020	236972
40139248014	ICO7-TW-SE10-TOS-DUP	EPA 3010	236879	EPA 6020	236972
40139248015	ICO7-TW-NE10-TOS	EPA 3010	236879	EPA 6020	236972
40139248016	ICO7-TW-NE10-BOS	EPA 3010	237037	EPA 6020	237129
40139248017	ICO7-TW-SE10-BOS	EPA 3010	237037	EPA 6020	237129
40139248018	CS3-PZ-354	EPA 3010	237037	EPA 6020	237129
40139248019	CS3-MW-354	EPA 3010	237037	EPA 6020	237129
40139248020	CS3-MW-354 DUP	EPA 3010	237037	EPA 6020	237129
40139248001	CS3-MW-302	EPA 8260	236880		
40139248002	ICO1-TW-SE7.5-BOS	EPA 8260	236880		
40139248003	ICO1-TW-SE7.5-TOS	EPA 8260	236880		
40139248004	CS3-PZ-302	EPA 8260	236880		
40139248005	ICO1-TW-SE5-TOS	EPA 8260	236880		
40139248006	ICO1-TW-SE5-BOS	EPA 8260	236880		
40139248007	ICO6-TW-NE7.5-TOS	EPA 8260	236880		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412.1 KEP
Pace Project No.: 40139248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139248008	ICO6-TW-NE7.5-BOS	EPA 8260	236880		
40139248009	ICO6-TW-NE5-TOS	EPA 8260	236880		
40139248010	ICO6-TW-NE5-BOS	EPA 8260	236880		
40139248011	CS3-PZ-317	EPA 8260	236880		
40139248012	CS3-MW-317	EPA 8260	236880		
40139248013	ICO7-TW-SE10-TOS	EPA 8260	236880		
40139248014	ICO7-TW-SE10-TOS-DUP	EPA 8260	236880		
40139248015	ICO7-TW-NE10-TOS	EPA 8260	236880		
40139248016	ICO7-TW-NE10-BOS	EPA 8260	236880		
40139248017	ICO7-TW-SE10-BOS	EPA 8260	236880		
40139248018	CS3-PZ-354	EPA 8260	236880		
40139248019	CS3-MW-354	EPA 8260	236880		
40139248020	CS3-MW-354 DUP	EPA 8260	236880		
40139248021	TRIP BLANK-ISCO	EPA 8260	236881		
40139248001	CS3-MW-302	EPA 300.0	236893		
40139248002	ICO1-TW-SE7.5-BOS	EPA 300.0	236893		
40139248003	ICO1-TW-SE7.5-TOS	EPA 300.0	236893		
40139248004	CS3-PZ-302	EPA 300.0	236893		
40139248005	ICO1-TW-SE5-TOS	EPA 300.0	236893		
40139248006	ICO1-TW-SE5-BOS	EPA 300.0	236893		
40139248007	ICO6-TW-NE7.5-TOS	EPA 300.0	236893		
40139248008	ICO6-TW-NE7.5-BOS	EPA 300.0	236893		
40139248009	ICO6-TW-NE5-TOS	EPA 300.0	236893		
40139248010	ICO6-TW-NE5-BOS	EPA 300.0	236893		
40139248011	CS3-PZ-317	EPA 300.0	236893		
40139248012	CS3-MW-317	EPA 300.0	236893		
40139248013	ICO7-TW-SE10-TOS	EPA 300.0	236893		
40139248014	ICO7-TW-SE10-TOS-DUP	EPA 300.0	236893		
40139248015	ICO7-TW-NE10-TOS	EPA 300.0	236893		
40139248016	ICO7-TW-NE10-BOS	EPA 300.0	237046		
40139248017	ICO7-TW-SE10-BOS	EPA 300.0	237046		
40139248018	CS3-PZ-354	EPA 300.0	237046		
40139248019	CS3-MW-354	EPA 300.0	237046		
40139248020	CS3-MW-354 DUP	EPA 300.0	237046		
40139248001	CS3-MW-302	SM 5310C	236855		
40139248002	ICO1-TW-SE7.5-BOS	SM 5310C	236855		
40139248003	ICO1-TW-SE7.5-TOS	SM 5310C	236855		
40139248004	CS3-PZ-302	SM 5310C	236855		
40139248005	ICO1-TW-SE5-TOS	SM 5310C	236855		
40139248006	ICO1-TW-SE5-BOS	SM 5310C	236855		
40139248007	ICO6-TW-NE7.5-TOS	SM 5310C	236855		
40139248008	ICO6-TW-NE7.5-BOS	SM 5310C	236855		
40139248009	ICO6-TW-NE5-TOS	SM 5310C	236855		
40139248010	ICO6-TW-NE5-BOS	SM 5310C	236855		
40139248011	CS3-PZ-317	SM 5310C	236855		
40139248012	CS3-MW-317	SM 5310C	236855		
40139248013	ICO7-TW-SE10-TOS	SM 5310C	236855		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412.1 KEP

Pace Project No.: 40139248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40139248014	ICO7-TW-SE10-TOS-DUP	SM 5310C	236855		
40139248015	ICO7-TW-NE10-TOS	SM 5310C	236855		
40139248016	ICO7-TW-NE10-BOS	SM 5310C	236855		
40139248017	ICO7-TW-SE10-BOS	SM 5310C	236855		
40139248018	CS3-PZ-354	SM 5310C	236855		
40139248019	CS3-MW-354	SM 5310C	236855		
40139248020	CS3-MW-354 DUP	SM 5310C	237154		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

40139248

Section A

Required Client Information:

Company: AECOM - Milw
Address: 1555 N. River Center Dr., Suite 214
Milwaukee, WI 53212
Email To: Lanette.Altenbach@aecom.com
Phone: 414-577-1363 Fax:
Requested Due Date/TAT: Standard

Section B

Required Project Information:

Report To: Lanette Altenbach
Copy To:
Purchase Order No.:
Project Name:
Project Number: 60518412.1

Section C

Invoice Information:

Attention: Accounts Payable/Finance Department
Company Name: City of Kenosha
Address: 652 52nd St., Kenosha, WI 53140
Pace Quote Reference:
Pace Project Manager: Chris Hyska
Pace Profile #: (2430) Kenosha work

REGULATORY AGENCY
NPDES, GROUND WATER, DRINKING WATER
UST, RCRA, OTHER
SITE: GA, IL, IN, MI, NC
LOCATION: OH, SC, WI, OTHER

Section D Required Client Information
SAMPLE ID
One Character per box.
(A-Z, 0-9 / -)
Samples IDs MUST BE UNIQUE

COLLECTED
MATRIX CODE
SAMPLE TYPE
COMPOSITE START/END
SAMPLE TEMP AT COLLECTION
#OF CONTAINERS
Preservatives

Filtered (Y/N)
Requested Analysis:
Pace Project Number Lab I.D.

Table with 12 rows of sample data including columns for Item #, Sample ID, Matrix Code, Sample Type, Date/Time, Containers, Preservatives, and Analysis results.

Additional Comments: Please consider "CS-X" and "CSX" to be the same sample via chain and labels where X corresponds to a number (3,4,8). The "-" does not change sample ID.

Table for Relinquished/Accepted by, Date, Time, and Sample Conditions.

Analysis per contract

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Andrew Pirany / Zach Albert
SIGNATURE of SAMPLER: [Signature]

Temp in °C
Received on Ice
Custody Sealed Cooler
Samples Intact



CHAIN-OF-CUSTODY / Analytical Request Document

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

40139248

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AECOM - Milw		Report To: Lanette Altenbach		Attention: Accounts Payable/Finance Department	
Address: 1555 N. River Center Dr., Suite 214		Copy To:		Company Name: City of Kenosha	
Milwaukee, WI 53212				Address: 652 52nd St., Kenosha, WI 53140	
Email To: Lanette.Altenbach@aecom.com		Purchase Order No.:		Pace Quote Reference:	
Phone: 414-577-1363 Fax:		Project Name:		Pace Project Manager: Chris Hyska	
Requested Due Date/TAT: Standard		Project Number: 60518412.1		Pace Profile #: (2430) Kenosha work	

REGULATORY AGENCY					
<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER			
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	OTHER _____			
SITE LOCATION		<input type="checkbox"/> GA	<input type="checkbox"/> IL	<input type="checkbox"/> IN	<input type="checkbox"/> MI
		<input type="checkbox"/> OH	<input type="checkbox"/> SC	<input checked="" type="checkbox"/> WI	OTHER _____

ITEM #	Section D Required Client Information		MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	COLLECTED				SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives								Filtered (Y/N)	Requested Analysis:	Pace Project Number Lab I.D.							
	SAMPLE ID				Valid Matrix Codes	COMPOSITE START	COMPOSITE END/GRAB	Unpreserved			H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₈	Methanol	Other	VOCS				TOC	Chloride (ppm)	Bromide (ppm)	Leads (ppb)	Cu (ppb)	Mn (ppb)	Residual Chlorine (Y/N)
	One Character per box. (A-Z, 0-9 / .-)				MATRIX CODE																							
	Samples IDs MUST BE UNIQUE				DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIFE WPF AIR AR OTHER OT TISSUE TS	COMPOSITE START DATE	COMPOSITE END/GRAB TIME	DATE			TIME	DATE	TIME															
1	CS3-MW-317		WT	G	9/26/10	9/26/10	0900		7	1	1	2	3												See additional sheet mm 9/29/10			
2	IC07-TW-SE10-TOS		WT	G			0929		7	1	1	2	3															
3	IC07-TW-SE10-TOS-DWP		WT	G			0929		7	1	1	2	3															
4	IC07-TW-NE10-TOS		WT	G			1039		7	1	1	2	3															
5	IC07-TW-NE10-BOS		WT	G			1049		7	1	1	2	3															
6	IC07-TW-SE10-BOS		WT	G			0917		7	1	1	2	3															
7	CS3-PZ-354		WT	G			1000		7	1	1	2	3															
8	CS3-MW-354		WT	G			1100		7	1	1	2	3															
9	CS3-mw-354 DWP		WT	G			1100		7	1	1	2	3															
10	ERDI-TW-NW10-BOS		WT	G	9/27/10	9/27/10	1012		4	1		3																
11	ERDI-TW-NW10-BOS DWP		WT	G			1012		4	1		3																
12	ERDI-TW-NW10-TOS		WT	G			1020		4	1		3																

Additional Comments:

Analysis per contract

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
<i>Sengelmann</i>	9/29/10	10:45	<i>Mary Ferrin</i>	9/29/10	10:45	Y/N	Y/N	Y/N
<i>Mary Ferrin</i>	9/29/10	10:20				Y/N	Y/N	Y/N
<i>CS LOGISTICS</i>	9/29/10	1:35	<i>Maria McKay Faye</i>	9/29	1:35	ROI	Y/N	Y/N
						Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: <i>Andrew Puring / Zach Albert</i>	DATE Signed (MM/DD/YY): <i>09/26/10</i>				
SIGNATURE of SAMPLER: <i>Andrew Puring / Zach Albert</i>					



CHAIN-OF-CUSTODY / Analytical Request Document

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

40139248
Page 70 of 72

Page: 3 of 3

Section A

Required Client Information:

Company: AECOM - Milw
Address: 1555 N. River Center Dr., Suite 214
Milwaukee, WI 53212
Email To: Lanette.Altенbach@aecom.com
Phone: 414-577-1363 Fax:
Requested Due Date/TAT: Standard

Section B

Required Project Information:

Report To: Lanette Altenbach
Copy To:
Purchase Order No.:
Project Name:
Project Number: 60518412.1

Section C

Invoice Information:

Attention: Accounts Payable/Finance Department
Company Name: City of Kenosha
Address: 652 52nd St., Kenosha, WI 53140
Pace Quote Reference:
Pace Project Manager: Chris Hyska
Pace Profile #: (2430) Kenosha work

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER _____

SITE LOCATION

GA IL IN MI NC
 OH SC WI OTHER _____

ITEM #	Section D Required Client Information SAMPLE ID One Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL DIL CL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Filtered (Y/N)	Requested Analysis:	Pace Project Number Lab I.D.	
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol				Other
					DATE	TIME	DATE	TIME													
					/ /																
1	Trip Blank - ISCO		WT	G			9/23/16	0800		4								X	See additional sheet mm 922116		
2			WT																		
3			WT																		
4			WT																		
5			WT																		
6			WT																		
7			WT																		
8			WT																		
9			WT																		
10			WT																		
11			WT																		
12			WT																		

Additional Comments:

Analysis per contract

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
Songelwona	9/23/16	10:45	Mary Farni	9/23/16	10:45	Y/N	Y/N	Y/N
Mary Farni	9/23/16	11:20				Y/N	Y/N	Y/N
CS Logistics	9/23/16	1350	Mary Farni	9/23/16	1350	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

Andrew Pirrung

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY)

09/23/16

Temp in °C

Received on Ice

Custody Sealed Cooler

Samples Intact



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Condition Upon Receipt

Client Name: AFCOM Project # 40139248

Additional Comments/Resolution: _____

001 - 3-40mlVB, 1-125mlag^C, 3-250mlP ^{ADD}

002 -			
003 -			
004 -			
005 -			
006 -			
007 -			
008 -			
009 -			
010 -			
011 -			
012 -			
013 -			
014 -			
015 -			
016 -			
017 -			
018 -			
019 -			
020 -			

021 - 4-40mlVB mm92916

Project Manager Review: _____ Date: _____



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project # WO#: 40139248

Client Name: AECOM

Courier: Fed Ex UPS Client Pace Other: CS LOGISTICS



Custody Seal on Cooler/Box Present: 17 yes - no Seals intact: 17 yes 1 no

Custody Seal on Samples Present: 1 yes 17 no Seals intact: 1 yes 17 no

Packing Material: 17 Bubble Wrap 17 Bubble Bags 1 None 1 Other

Thermometer Used: NW Type of Ice: Wet Blue Dry None 17 Samples on ice, cooling process has begun

Cooler Temperature: Uncorr: RDI / Corr: Biological Tissue is Frozen: 1 yes 1 no

Temp Blank Present: 1 yes 17 no

Person examining contents:
Date: 9/29/16
Initials: MAM

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Table with 15 rows for Chain of Custody Present, Chain of Custody Filled Out, Chain of Custody Relinquished, Sampler Name & Signature on COC, Samples Arrived within Hold Time, Short Hold Time Analysis (<72hr), Rush Turn Around Time Requested, Sufficient Volume, Correct Containers Used, Containers Intact, Filtered volume received for Dissolved tests, Sample Labels match COC, All containers needing preservation have been checked, Headspace in VOA Vials (>6mm), Trip Blank Present, Trip Blank Custody Seals Present, Pace Trip Blank Lot # (if purchased).

Client Notification/ Resolution: If checked, see attached form for additional comments
Person Contacted: Lnette Altenbach Date/Time: 9/30/16

Comments/ Resolution: Per LA, Sample 0024; transfer volume from up-scaled bottle into #2504 amber B-TOC. 9/30/16 CDB

Project Manager Review: [Signature] Date: 9-20-16

January 25, 2017

Lanette Altenbach
AECOM, Inc.- Milwaukee
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60518412-1 KEP
Pace Project No.: 40144482

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on January 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christopher Hyska
christopher.hyska@pacelabs.com
Project Manager

Enclosures

cc: Paul Lindquist, AECOM



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 60518412-1 KEP

Pace Project No.: 40144482

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40144482001	CS-3-MW-302	Water	01/11/17 14:29	01/13/17 15:25
40144482002	CS-3-PZ-302	Water	01/12/17 12:33	01/13/17 15:25
40144482003	CS-3-MW-317	Water	01/11/17 11:42	01/13/17 15:25
40144482004	CS-3-MW-317 DUP	Water	01/11/17 11:42	01/13/17 15:25
40144482005	CS-3-PZ-317	Water	01/11/17 09:52	01/13/17 15:25
40144482006	ICO1-TW-SE5-TOS	Water	01/11/17 12:00	01/13/17 15:25
40144482007	ICO1-TW-SE5-BOS	Water	01/11/17 12:57	01/13/17 15:25
40144482008	ICO1-TW-SE7.5-TOS	Water	01/11/17 10:18	01/13/17 15:25
40144482009	ICO1-TW-SE7.5-BOS	Water	01/11/17 11:16	01/13/17 15:25
40144482010	ICO6-TW-NE5-TOS	Water	01/11/17 14:00	01/13/17 15:25
40144482011	ICO6-TW-NE5-BOS	Water	01/11/17 15:05	01/13/17 15:25
40144482012	ICO6-TW-NE7.5-TOS	Water	01/12/17 09:59	01/13/17 15:25
40144482013	ICO6-TW-NE7.5-BOS	Water	01/12/17 11:17	01/13/17 15:25
40144482014	ICO7-TW-NE10-TOS	Water	01/12/17 09:52	01/13/17 15:25
40144482015	ICO7-TW-NE10-BOS	Water	01/12/17 10:47	01/13/17 15:25
40144482016	ICO7-TW-SE10-TOS	Water	01/12/17 12:33	01/13/17 15:25
40144482017	ICO7-TW-SE10 DUP	Water	01/12/17 12:30	01/13/17 15:25
40144482018	ICO7-TW-SE10-BOS	Water	01/12/17 13:37	01/13/17 15:25
40144482019	TRIP BLANK	Water	01/12/17 16:00	01/13/17 15:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60518412-1 KEP
Pace Project No.: 40144482

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40144482001	CS-3-MW-302	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482002	CS-3-PZ-302	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482003	CS-3-MW-317	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482004	CS-3-MW-317 DUP	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482005	CS-3-PZ-317	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482006	ICO1-TW-SE5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482007	ICO1-TW-SE5-BOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482008	ICO1-TW-SE7.5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60518412-1 KEP
Pace Project No.: 40144482

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40144482009	ICO1-TW-SE7.5-BOS	EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
40144482010	ICO6-TW-NE5-TOS	EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40144482011	ICO6-TW-NE5-BOS	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40144482012	ICO6-TW-NE7.5-TOS	EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
40144482013	ICO6-TW-NE7.5-BOS	EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
40144482014	ICO7-TW-NE10-TOS	EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
40144482015	ICO7-TW-NE10-BOS	EPA 300.0	HMB	2	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		EPA 6010	DLB	2	PASI-G

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60518412-1 KEP

Pace Project No.: 40144482

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40144482016	ICO7-TW-SE10-TOS	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40144482017	ICO7-TW-SE10 DUP	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40144482018	ICO7-TW-SE10-BOS	SM 5310C	TJJ	1	PASI-G
		EPA 6010	DLB	2	PASI-G
		EPA 6020	SDW	4	PASI-G
		EPA 8260	LAP	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
40144482019	TRIP BLANK	SM 5310C	TJJ	1	PASI-G
		EPA 8260	LAP	64	PASI-G

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-302 **Lab ID: 40144482001** Collected: 01/11/17 14:29 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Iron, Dissolved	<15.5	ug/L	100	15.5	1		01/19/17 09:07	7439-89-6	
Manganese, Dissolved	1320	ug/L	5.0	1.1	1		01/19/17 09:07	7439-96-5	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	20.0	ug/L	5.0	0.31	5	01/17/17 08:57	01/20/17 04:42	7440-39-3	
Chromium	26.4	ug/L	5.0	2.0	5	01/17/17 08:57	01/24/17 03:50	7440-47-3	
Lead	3.4J	ug/L	5.0	0.20	5	01/17/17 08:57	01/20/17 04:42	7439-92-1	D3
Nickel	12.4	ug/L	5.0	0.56	5	01/17/17 08:57	01/24/17 03:50	7440-02-0	
8260 MSV Analytical Method: EPA 8260									
Benzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		01/19/17 09:56	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		01/19/17 09:56	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		01/19/17 09:56	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		01/19/17 09:56	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		01/19/17 09:56	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		01/19/17 09:56	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		01/19/17 09:56	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		01/19/17 09:56	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		01/19/17 09:56	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		01/19/17 09:56	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		01/19/17 09:56	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		01/19/17 09:56	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		01/19/17 09:56	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		01/19/17 09:56	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		01/19/17 09:56	75-35-4	
cis-1,2-Dichloroethene	166	ug/L	5.0	1.3	5		01/19/17 09:56	156-59-2	
trans-1,2-Dichloroethene	17.9	ug/L	5.0	1.3	5		01/19/17 09:56	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		01/19/17 09:56	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		01/19/17 09:56	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		01/19/17 09:56	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		01/19/17 09:56	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-302 **Lab ID:** 40144482001 Collected: 01/11/17 14:29 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		01/19/17 09:56	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		01/19/17 09:56	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	99-87-6	
Methylene Chloride	<1.2	ug/L	5.0	1.2	5		01/19/17 09:56	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		01/19/17 09:56	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		01/19/17 09:56	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		01/19/17 09:56	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		01/19/17 09:56	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		01/19/17 09:56	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		01/19/17 09:56	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		01/19/17 09:56	79-00-5	
Trichloroethene	216	ug/L	5.0	1.7	5		01/19/17 09:56	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		01/19/17 09:56	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	108-67-8	
Vinyl chloride	3.8J	ug/L	5.0	0.88	5		01/19/17 09:56	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		01/19/17 09:56	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		01/19/17 09:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		5		01/19/17 09:56	460-00-4	
Dibromofluoromethane (S)	99	%	70-130		5		01/19/17 09:56	1868-53-7	
Toluene-d8 (S)	102	%	70-130		5		01/19/17 09:56	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	96.6	mg/L	20.0	5.0	10		01/17/17 15:33	16887-00-6	
Sulfate	854	mg/L	150	50.0	50		01/18/17 12:31	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	236	mg/L	84.0	25.2	100		01/16/17 20:14	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-PZ-302 **Lab ID: 40144482002** Collected: 01/12/17 12:33 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Iron, Dissolved	<34.0	ug/L	100	34.0	1	01/18/17 09:19	01/19/17 13:08	7439-89-6	
Manganese, Dissolved	204000	ug/L	550	183	100	01/18/17 09:19	01/19/17 13:43	7439-96-5	
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	10.2J	ug/L	50.0	3.1	50	01/17/17 08:57	01/24/17 04:04	7440-39-3	D3
Chromium	367	ug/L	50.0	19.7	50	01/17/17 08:57	01/24/17 04:04	7440-47-3	
Lead	<2.0	ug/L	50.0	2.0	50	01/17/17 08:57	01/20/17 15:42	7439-92-1	D3
Nickel	<5.6	ug/L	50.0	5.6	50	01/17/17 08:57	01/24/17 04:04	7440-02-0	D3
8260 MSV									
Analytical Method: EPA 8260									
Benzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		01/19/17 17:29	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		01/19/17 17:29	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		01/19/17 17:29	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		01/19/17 17:29	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		01/19/17 17:29	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		01/19/17 17:29	75-00-3	
Chloroform	12.8J	ug/L	25.0	12.5	5		01/19/17 17:29	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		01/19/17 17:29	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		01/19/17 17:29	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		01/19/17 17:29	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		01/19/17 17:29	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		01/19/17 17:29	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		01/19/17 17:29	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		01/19/17 17:29	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		01/19/17 17:29	75-35-4	
cis-1,2-Dichloroethene	<1.3	ug/L	5.0	1.3	5		01/19/17 17:29	156-59-2	
trans-1,2-Dichloroethene	<1.3	ug/L	5.0	1.3	5		01/19/17 17:29	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		01/19/17 17:29	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		01/19/17 17:29	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		01/19/17 17:29	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		01/19/17 17:29	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-PZ-302 **Lab ID: 40144482002** Collected: 01/12/17 12:33 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		01/19/17 17:29	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		01/19/17 17:29	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	99-87-6	
Methylene Chloride	3.6J	ug/L	5.0	1.2	5		01/19/17 17:29	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		01/19/17 17:29	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		01/19/17 17:29	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		01/19/17 17:29	630-20-6	
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		01/19/17 17:29	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		01/19/17 17:29	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		01/19/17 17:29	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		01/19/17 17:29	79-00-5	
Trichloroethene	<1.7	ug/L	5.0	1.7	5		01/19/17 17:29	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		01/19/17 17:29	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	108-67-8	
Vinyl chloride	<0.88	ug/L	5.0	0.88	5		01/19/17 17:29	75-01-4	
m&p-Xylene	<5.0	ug/L	10.0	5.0	5		01/19/17 17:29	179601-23-1	
o-Xylene	<2.5	ug/L	5.0	2.5	5		01/19/17 17:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		5		01/19/17 17:29	460-00-4	D3,pH
Dibromofluoromethane (S)	104	%	70-130		5		01/19/17 17:29	1868-53-7	
Toluene-d8 (S)	97	%	70-130		5		01/19/17 17:29	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	310	mg/L	40.0	10.0	20		01/17/17 16:10	16887-00-6	
Sulfate	1590	mg/L	300	100	100		01/18/17 13:08	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	499	mg/L	252	75.6	300		01/16/17 20:33	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-317 Lab ID: 40144482003 Collected: 01/11/17 11:42 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	3160	ug/L	100	15.5	1		01/19/17 09:10	7439-89-6	
Manganese, Dissolved	214	ug/L	5.0	1.1	1		01/19/17 09:10	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	77.0	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 04:02	7440-39-3	
Chromium	0.57J	ug/L	1.0	0.39	1	01/17/17 08:57	01/20/17 04:02	7440-47-3	
Lead	0.24J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 04:02	7439-92-1	
Nickel	8.6	ug/L	1.0	0.11	1	01/17/17 08:57	01/20/17 04:02	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 10:41	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 10:41	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 10:41	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 10:41	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 10:41	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 10:41	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 10:41	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 10:41	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 10:41	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 10:41	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 10:41	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 10:41	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 10:41	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 10:41	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 10:41	75-35-4	
cis-1,2-Dichloroethene	1040	ug/L	4.0	1.0	4		01/19/17 10:41	156-59-2	
trans-1,2-Dichloroethene	80.1	ug/L	4.0	1.0	4		01/19/17 10:41	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 10:41	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 10:41	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 10:41	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 10:41	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-317 **Lab ID: 40144482003** Collected: 01/11/17 11:42 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 10:41	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 10:41	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 10:41	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 10:41	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 10:41	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 10:41	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 10:41	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 10:41	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 10:41	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 10:41	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 10:41	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 10:41	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	108-67-8	
Vinyl chloride	402	ug/L	4.0	0.70	4		01/19/17 10:41	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 10:41	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 10:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		4		01/19/17 10:41	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		4		01/19/17 10:41	1868-53-7	
Toluene-d8 (S)	98	%	70-130		4		01/19/17 10:41	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	115	mg/L	20.0	5.0	10		01/17/17 16:58	16887-00-6	
Sulfate	474	mg/L	30.0	10.0	10		01/17/17 16:58	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	9.7	mg/L	8.4	2.5	10		01/16/17 20:52	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-317 DUP **Lab ID:** 40144482004 **Collected:** 01/11/17 11:42 **Received:** 01/13/17 15:25 **Matrix:** Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	2980	ug/L	100	15.5	1		01/19/17 09:12	7439-89-6	
Manganese, Dissolved	213	ug/L	5.0	1.1	1		01/19/17 09:12	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	76.1	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:03	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:11	7440-47-3	
Lead	0.067J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:03	7439-92-1	
Nickel	8.4	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:11	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:04	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 11:04	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 11:04	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 11:04	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 11:04	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 11:04	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 11:04	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 11:04	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 11:04	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 11:04	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 11:04	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 11:04	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 11:04	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 11:04	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 11:04	75-35-4	
cis-1,2-Dichloroethene	1070	ug/L	4.0	1.0	4		01/19/17 11:04	156-59-2	
trans-1,2-Dichloroethene	84.6	ug/L	4.0	1.0	4		01/19/17 11:04	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 11:04	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 11:04	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 11:04	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:04	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-MW-317 DUP **Lab ID: 40144482004** Collected: 01/11/17 11:42 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 11:04	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 11:04	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 11:04	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 11:04	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 11:04	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 11:04	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 11:04	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 11:04	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 11:04	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 11:04	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 11:04	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 11:04	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	108-67-8	
Vinyl chloride	418	ug/L	4.0	0.70	4		01/19/17 11:04	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 11:04	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		4		01/19/17 11:04	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		4		01/19/17 11:04	1868-53-7	
Toluene-d8 (S)	99	%	70-130		4		01/19/17 11:04	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	113	mg/L	20.0	5.0	10		01/17/17 17:10	16887-00-6	
Sulfate	470	mg/L	30.0	10.0	10		01/17/17 17:10	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	9.7	mg/L	8.4	2.5	10		01/16/17 21:11	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-PZ-317 **Lab ID:** 40144482005 Collected: 01/11/17 09:52 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved Analytical Method: EPA 6010									
Iron, Dissolved	<15.5	ug/L	100	15.5	1		01/19/17 11:24	7439-89-6	
Manganese, Dissolved	13.8	ug/L	5.0	1.1	1		01/19/17 11:24	7439-96-5	
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	155	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:10	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:17	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:10	7439-92-1	
Nickel	0.91J	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:17	7440-02-0	
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		01/20/17 07:33	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		01/20/17 07:33	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		01/20/17 07:33	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		01/20/17 07:33	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		01/20/17 07:33	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		01/20/17 07:33	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		01/20/17 07:33	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		01/20/17 07:33	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		01/20/17 07:33	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		01/20/17 07:33	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		01/20/17 07:33	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		01/20/17 07:33	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		01/20/17 07:33	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		01/20/17 07:33	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		01/20/17 07:33	75-35-4	
cis-1,2-Dichloroethene	0.40J	ug/L	1.0	0.26	1		01/20/17 07:33	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/20/17 07:33	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		01/20/17 07:33	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		01/20/17 07:33	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		01/20/17 07:33	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		01/20/17 07:33	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: CS-3-PZ-317 **Lab ID:** 40144482005 Collected: 01/11/17 09:52 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		01/20/17 07:33	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		01/20/17 07:33	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		01/20/17 07:33	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/20/17 07:33	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/20/17 07:33	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		01/20/17 07:33	630-20-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		01/20/17 07:33	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		01/20/17 07:33	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		01/20/17 07:33	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		01/20/17 07:33	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		01/20/17 07:33	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		01/20/17 07:33	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		01/20/17 07:33	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/20/17 07:33	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/20/17 07:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		1		01/20/17 07:33	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		01/20/17 07:33	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		01/20/17 07:33	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	201	mg/L	20.0	5.0	10		01/18/17 13:20	16887-00-6	
Sulfate	122	mg/L	30.0	10.0	10		01/18/17 13:20	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	<0.25	mg/L	0.84	0.25	1		01/16/17 21:30	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE5-TOS **Lab ID:** 40144482006 Collected: 01/11/17 12:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	4550	ug/L	100	15.5	1		01/19/17 11:27	7439-89-6	
Manganese, Dissolved	214	ug/L	5.0	1.1	1		01/19/17 11:27	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	98.7	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:16	7440-39-3	
Chromium	0.59J	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:24	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:16	7439-92-1	
Nickel	4.9	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:24	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:26	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 11:26	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 11:26	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 11:26	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 11:26	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 11:26	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 11:26	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 11:26	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 11:26	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 11:26	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 11:26	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 11:26	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 11:26	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 11:26	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 11:26	75-35-4	
cis-1,2-Dichloroethene	838	ug/L	4.0	1.0	4		01/19/17 11:26	156-59-2	
trans-1,2-Dichloroethene	138	ug/L	4.0	1.0	4		01/19/17 11:26	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 11:26	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 11:26	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 11:26	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:26	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE5-TOS **Lab ID:** 40144482006 Collected: 01/11/17 12:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 11:26	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 11:26	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 11:26	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 11:26	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 11:26	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 11:26	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 11:26	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 11:26	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 11:26	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 11:26	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 11:26	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 11:26	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	108-67-8	
Vinyl chloride	178	ug/L	4.0	0.70	4		01/19/17 11:26	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 11:26	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		4		01/19/17 11:26	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		4		01/19/17 11:26	1868-53-7	
Toluene-d8 (S)	100	%	70-130		4		01/19/17 11:26	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	222	mg/L	20.0	5.0	10		01/17/17 17:34	16887-00-6	
Sulfate	346	mg/L	30.0	10.0	10		01/17/17 17:34	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	15.3	mg/L	8.4	2.5	10		01/16/17 21:48	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE5-BOS **Lab ID:** 40144482007 Collected: 01/11/17 12:57 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	4800	ug/L	100	15.5	1		01/19/17 11:36	7439-89-6	
Manganese, Dissolved	216	ug/L	5.0	1.1	1		01/19/17 11:36	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	97.9	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:23	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:31	7440-47-3	
Lead	0.12J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:23	7439-92-1	
Nickel	4.7	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:31	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:49	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 11:49	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 11:49	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 11:49	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 11:49	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 11:49	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 11:49	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 11:49	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 11:49	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 11:49	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 11:49	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 11:49	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 11:49	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 11:49	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 11:49	75-35-4	
cis-1,2-Dichloroethene	925	ug/L	4.0	1.0	4		01/19/17 11:49	156-59-2	
trans-1,2-Dichloroethene	128	ug/L	4.0	1.0	4		01/19/17 11:49	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 11:49	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 11:49	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 11:49	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 11:49	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE5-BOS **Lab ID:** 40144482007 Collected: 01/11/17 12:57 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 11:49	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 11:49	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 11:49	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 11:49	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 11:49	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 11:49	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 11:49	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 11:49	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 11:49	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 11:49	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 11:49	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 11:49	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	108-67-8	
Vinyl chloride	186	ug/L	4.0	0.70	4		01/19/17 11:49	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 11:49	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 11:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		4		01/19/17 11:49	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		4		01/19/17 11:49	1868-53-7	
Toluene-d8 (S)	101	%	70-130		4		01/19/17 11:49	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	231	mg/L	20.0	5.0	10		01/17/17 17:46	16887-00-6	
Sulfate	366	mg/L	30.0	10.0	10		01/17/17 17:46	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	14.5	mg/L	8.4	2.5	10		01/17/17 12:48	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE7.5-TOS **Lab ID: 40144482008** Collected: 01/11/17 10:18 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	3850	ug/L	100	15.5	1		01/19/17 11:39	7439-89-6	
Manganese, Dissolved	366	ug/L	5.0	1.1	1		01/19/17 11:39	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	99.2	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:30	7440-39-3	
Chromium	0.44J	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:38	7440-47-3	
Lead	0.090J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:30	7439-92-1	
Nickel	7.2	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:38	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 12:12	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 12:12	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 12:12	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 12:12	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 12:12	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 12:12	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 12:12	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 12:12	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 12:12	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 12:12	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 12:12	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 12:12	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 12:12	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 12:12	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 12:12	75-35-4	
cis-1,2-Dichloroethene	733	ug/L	4.0	1.0	4		01/19/17 12:12	156-59-2	
trans-1,2-Dichloroethene	104	ug/L	4.0	1.0	4		01/19/17 12:12	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 12:12	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 12:12	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 12:12	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 12:12	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE7.5-TOS **Lab ID:** 40144482008 Collected: 01/11/17 10:18 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 12:12	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 12:12	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 12:12	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 12:12	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 12:12	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 12:12	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 12:12	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 12:12	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 12:12	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 12:12	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 12:12	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 12:12	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	108-67-8	
Vinyl chloride	191	ug/L	4.0	0.70	4		01/19/17 12:12	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 12:12	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		4		01/19/17 12:12	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		4		01/19/17 12:12	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		01/19/17 12:12	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	184	mg/L	20.0	5.0	10		01/17/17 17:58	16887-00-6	
Sulfate	414	mg/L	30.0	10.0	10		01/17/17 17:58	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	16.6	mg/L	8.4	2.5	10		01/17/17 00:01	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP
Pace Project No.: 40144482

Sample: **IC01-TW-SE7.5-BOS** Lab ID: **40144482009** Collected: 01/11/17 11:16 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	4310	ug/L	100	15.5	1		01/19/17 11:41	7439-89-6	
Manganese, Dissolved	302	ug/L	5.0	1.1	1		01/19/17 11:41	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	89.7	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:37	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 04:45	7440-47-3	
Lead	0.041J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:37	7439-92-1	
Nickel	6.6	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 04:45	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 12:34	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 12:34	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 12:34	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 12:34	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 12:34	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 12:34	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 12:34	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 12:34	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 12:34	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 12:34	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 12:34	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 12:34	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 12:34	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 12:34	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 12:34	75-35-4	
cis-1,2-Dichloroethene	813	ug/L	4.0	1.0	4		01/19/17 12:34	156-59-2	
trans-1,2-Dichloroethene	116	ug/L	4.0	1.0	4		01/19/17 12:34	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 12:34	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 12:34	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 12:34	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 12:34	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO1-TW-SE7.5-BOS **Lab ID:** 40144482009 Collected: 01/11/17 11:16 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 12:34	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 12:34	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 12:34	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 12:34	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 12:34	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 12:34	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 12:34	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 12:34	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 12:34	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 12:34	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		01/19/17 12:34	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 12:34	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	108-67-8	
Vinyl chloride	206	ug/L	4.0	0.70	4		01/19/17 12:34	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 12:34	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 12:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	85	%	70-130		4		01/19/17 12:34	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		4		01/19/17 12:34	1868-53-7	
Toluene-d8 (S)	99	%	70-130		4		01/19/17 12:34	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	203	mg/L	20.0	5.0	10		01/17/17 19:01	16887-00-6	
Sulfate	439	mg/L	30.0	10.0	10		01/17/17 19:01	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	14.8	mg/L	8.4	2.5	10		01/17/17 00:19	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE5-TOS **Lab ID:** 40144482010 Collected: 01/11/17 14:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	1380	ug/L	100	15.5	1		01/19/17 11:43	7439-89-6	
Manganese, Dissolved	3920	ug/L	5.0	1.1	1		01/19/17 11:43	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	228	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 05:44	7440-39-3	
Chromium	18.2	ug/L	10.0	3.9	10	01/17/17 08:57	01/24/17 04:51	7440-47-3	
Lead	1.1	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 05:44	7439-92-1	
Nickel	18.6	ug/L	10.0	1.1	10	01/17/17 08:57	01/24/17 04:51	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	71-43-2	
Bromobenzene	<0.58	ug/L	2.5	0.58	2.5		01/19/17 12:57	108-86-1	
Bromochloromethane	<0.85	ug/L	2.5	0.85	2.5		01/19/17 12:57	74-97-5	
Bromodichloromethane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	75-27-4	
Bromoform	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	75-25-2	
Bromomethane	<6.1	ug/L	12.5	6.1	2.5		01/19/17 12:57	74-83-9	
n-Butylbenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	104-51-8	
sec-Butylbenzene	<5.5	ug/L	12.5	5.5	2.5		01/19/17 12:57	135-98-8	
tert-Butylbenzene	<0.45	ug/L	2.5	0.45	2.5		01/19/17 12:57	98-06-6	
Carbon tetrachloride	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	56-23-5	
Chlorobenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	108-90-7	
Chloroethane	<0.94	ug/L	2.5	0.94	2.5		01/19/17 12:57	75-00-3	
Chloroform	<6.2	ug/L	12.5	6.2	2.5		01/19/17 12:57	67-66-3	
Chloromethane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	74-87-3	
2-Chlorotoluene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	95-49-8	
4-Chlorotoluene	<0.53	ug/L	2.5	0.53	2.5		01/19/17 12:57	106-43-4	
1,2-Dibromo-3-chloropropane	<5.4	ug/L	12.5	5.4	2.5		01/19/17 12:57	96-12-8	
Dibromochloromethane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	124-48-1	
1,2-Dibromoethane (EDB)	<0.44	ug/L	2.5	0.44	2.5		01/19/17 12:57	106-93-4	
Dibromomethane	<1.1	ug/L	2.5	1.1	2.5		01/19/17 12:57	74-95-3	
1,2-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	95-50-1	
1,3-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	541-73-1	
1,4-Dichlorobenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	106-46-7	
Dichlorodifluoromethane	<0.56	ug/L	2.5	0.56	2.5		01/19/17 12:57	75-71-8	
1,1-Dichloroethane	2.0J	ug/L	2.5	0.60	2.5		01/19/17 12:57	75-34-3	
1,2-Dichloroethane	<0.42	ug/L	2.5	0.42	2.5		01/19/17 12:57	107-06-2	
1,1-Dichloroethene	<1.0	ug/L	2.5	1.0	2.5		01/19/17 12:57	75-35-4	
cis-1,2-Dichloroethene	209	ug/L	2.5	0.64	2.5		01/19/17 12:57	156-59-2	
trans-1,2-Dichloroethene	20.9	ug/L	2.5	0.64	2.5		01/19/17 12:57	156-60-5	
1,2-Dichloropropane	<0.58	ug/L	2.5	0.58	2.5		01/19/17 12:57	78-87-5	
1,3-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	142-28-9	
2,2-Dichloropropane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	594-20-7	
1,1-Dichloropropene	<1.1	ug/L	2.5	1.1	2.5		01/19/17 12:57	563-58-6	
cis-1,3-Dichloropropene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	10061-01-5	
trans-1,3-Dichloropropene	<0.57	ug/L	2.5	0.57	2.5		01/19/17 12:57	10061-02-6	
Diisopropyl ether	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE5-TOS **Lab ID: 40144482010** Collected: 01/11/17 14:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	100-41-4	
Hexachloro-1,3-butadiene	<5.3	ug/L	12.5	5.3	2.5		01/19/17 12:57	87-68-3	
Isopropylbenzene (Cumene)	<0.36	ug/L	2.5	0.36	2.5		01/19/17 12:57	98-82-8	
p-Isopropyltoluene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	99-87-6	
Methylene Chloride	0.77J	ug/L	2.5	0.58	2.5		01/19/17 12:57	75-09-2	
Methyl-tert-butyl ether	<0.44	ug/L	2.5	0.44	2.5		01/19/17 12:57	1634-04-4	
Naphthalene	<6.2	ug/L	12.5	6.2	2.5		01/19/17 12:57	91-20-3	
n-Propylbenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	103-65-1	
Styrene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	100-42-5	
1,1,1,2-Tetrachloroethane	<0.45	ug/L	2.5	0.45	2.5		01/19/17 12:57	630-20-6	
1,1,2,2-Tetrachloroethane	<0.62	ug/L	2.5	0.62	2.5		01/19/17 12:57	79-34-5	
Tetrachloroethene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	127-18-4	
Toluene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	108-88-3	
1,2,3-Trichlorobenzene	<5.3	ug/L	12.5	5.3	2.5		01/19/17 12:57	87-61-6	
1,2,4-Trichlorobenzene	<5.5	ug/L	12.5	5.5	2.5		01/19/17 12:57	120-82-1	
1,1,1-Trichloroethane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	71-55-6	
1,1,2-Trichloroethane	<0.49	ug/L	2.5	0.49	2.5		01/19/17 12:57	79-00-5	
Trichloroethene	230	ug/L	2.5	0.83	2.5		01/19/17 12:57	79-01-6	
Trichlorofluoromethane	<0.46	ug/L	2.5	0.46	2.5		01/19/17 12:57	75-69-4	
1,2,3-Trichloropropane	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	96-18-4	
1,2,4-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	95-63-6	
1,3,5-Trimethylbenzene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	108-67-8	
Vinyl chloride	3.2	ug/L	2.5	0.44	2.5		01/19/17 12:57	75-01-4	
m&p-Xylene	<2.5	ug/L	5.0	2.5	2.5		01/19/17 12:57	179601-23-1	
o-Xylene	<1.2	ug/L	2.5	1.2	2.5		01/19/17 12:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		2.5		01/19/17 12:57	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		2.5		01/19/17 12:57	1868-53-7	
Toluene-d8 (S)	100	%	70-130		2.5		01/19/17 12:57	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	113	mg/L	20.0	5.0	10		01/17/17 19:16	16887-00-6	
Sulfate	644	mg/L	150	50.0	50		01/18/17 13:32	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	113	mg/L	84.0	25.2	100		01/17/17 00:38	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE5-BOS **Lab ID:** 40144482011 Collected: 01/11/17 15:05 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	317	ug/L	100	15.5	1		01/19/17 11:46	7439-89-6	
Manganese, Dissolved	3220	ug/L	5.0	1.1	1		01/19/17 11:46	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	189	ug/L	5.0	0.31	5	01/17/17 08:57	01/20/17 06:04	7440-39-3	
Chromium	30.9	ug/L	5.0	2.0	5	01/17/17 08:57	01/24/17 15:33	7440-47-3	
Lead	1.5J	ug/L	5.0	0.20	5	01/17/17 08:57	01/20/17 06:04	7439-92-1	D3
Nickel	30.9	ug/L	5.0	0.56	5	01/17/17 08:57	01/24/17 15:33	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 13:20	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 13:20	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 13:20	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 13:20	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 13:20	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 13:20	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 13:20	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 13:20	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 13:20	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 13:20	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 13:20	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 13:20	75-71-8	
1,1-Dichloroethane	1.4J	ug/L	4.0	0.97	4		01/19/17 13:20	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 13:20	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 13:20	75-35-4	
cis-1,2-Dichloroethene	197	ug/L	4.0	1.0	4		01/19/17 13:20	156-59-2	
trans-1,2-Dichloroethene	16.4	ug/L	4.0	1.0	4		01/19/17 13:20	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 13:20	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 13:20	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 13:20	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 13:20	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE5-BOS **Lab ID:** 40144482011 Collected: 01/11/17 15:05 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 13:20	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 13:20	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	99-87-6	
Methylene Chloride	1.2J	ug/L	4.0	0.93	4		01/19/17 13:20	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 13:20	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 13:20	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 13:20	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 13:20	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 13:20	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 13:20	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 13:20	79-00-5	
Trichloroethene	687	ug/L	4.0	1.3	4		01/19/17 13:20	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 13:20	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	108-67-8	
Vinyl chloride	2.7J	ug/L	4.0	0.70	4		01/19/17 13:20	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 13:20	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	89	%	70-130		4		01/19/17 13:20	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		4		01/19/17 13:20	1868-53-7	
Toluene-d8 (S)	102	%	70-130		4		01/19/17 13:20	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	127	mg/L	20.0	5.0	10		01/17/17 19:28	16887-00-6	
Sulfate	864	mg/L	150	50.0	50		01/18/17 13:44	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	306	mg/L	84.0	25.2	100		01/17/17 00:57	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE7.5-TOS **Lab ID:** 40144482012 Collected: 01/12/17 09:59 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	120	ug/L	100	15.5	1		01/19/17 11:48	7439-89-6	
Manganese, Dissolved	5050	ug/L	5.0	1.1	1		01/19/17 11:48	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	16.5	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 06:11	7440-39-3	
Chromium	24.1	ug/L	10.0	3.9	10	01/17/17 08:57	01/24/17 15:40	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 06:11	7439-92-1	
Nickel	25.8	ug/L	10.0	1.1	10	01/17/17 08:57	01/24/17 15:40	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 13:43	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 13:43	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 13:43	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 13:43	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 13:43	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 13:43	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 13:43	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 13:43	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 13:43	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 13:43	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 13:43	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 13:43	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 13:43	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 13:43	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 13:43	75-35-4	
cis-1,2-Dichloroethene	132	ug/L	4.0	1.0	4		01/19/17 13:43	156-59-2	
trans-1,2-Dichloroethene	8.6	ug/L	4.0	1.0	4		01/19/17 13:43	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 13:43	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 13:43	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 13:43	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 13:43	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	108-20-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE7.5-TOS **Lab ID: 40144482012** Collected: 01/12/17 09:59 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 13:43	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 13:43	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	99-87-6	
Methylene Chloride	1.3J	ug/L	4.0	0.93	4		01/19/17 13:43	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 13:43	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 13:43	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 13:43	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 13:43	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 13:43	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 13:43	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 13:43	79-00-5	
Trichloroethene	450	ug/L	4.0	1.3	4		01/19/17 13:43	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 13:43	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	108-67-8	
Vinyl chloride	2.0J	ug/L	4.0	0.70	4		01/19/17 13:43	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 13:43	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 13:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		4		01/19/17 13:43	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		4		01/19/17 13:43	1868-53-7	
Toluene-d8 (S)	99	%	70-130		4		01/19/17 13:43	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	130	mg/L	20.0	5.0	10		01/17/17 19:40	16887-00-6	
Sulfate	791	mg/L	150	50.0	50		01/18/17 13:56	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	152	mg/L	84.0	25.2	100		01/17/17 01:16	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP
Pace Project No.: 40144482

Sample: **ICO6-TW-NE7.5-BOS** Lab ID: **40144482013** Collected: 01/12/17 11:17 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	<15.5	ug/L	100	15.5	1		01/19/17 11:51	7439-89-6	
Manganese, Dissolved	3280	ug/L	5.0	1.1	1		01/19/17 11:51	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	15.0	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 06:18	7440-39-3	
Chromium	24.2	ug/L	10.0	3.9	10	01/17/17 08:57	01/24/17 15:47	7440-47-3	
Lead	0.37J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 06:18	7439-92-1	
Nickel	34.2	ug/L	10.0	1.1	10	01/17/17 08:57	01/24/17 15:47	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:05	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 14:05	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 14:05	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 14:05	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 14:05	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 14:05	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 14:05	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 14:05	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 14:05	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 14:05	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 14:05	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 14:05	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 14:05	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 14:05	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 14:05	75-35-4	
cis-1,2-Dichloroethene	134	ug/L	4.0	1.0	4		01/19/17 14:05	156-59-2	
trans-1,2-Dichloroethene	9.6	ug/L	4.0	1.0	4		01/19/17 14:05	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 14:05	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 14:05	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 14:05	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:05	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: ICO6-TW-NE7.5-BOS **Lab ID: 40144482013** Collected: 01/12/17 11:17 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 14:05	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 14:05	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	99-87-6	
Methylene Chloride	1.3J	ug/L	4.0	0.93	4		01/19/17 14:05	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 14:05	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 14:05	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 14:05	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 14:05	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 14:05	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 14:05	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 14:05	79-00-5	
Trichloroethene	624	ug/L	4.0	1.3	4		01/19/17 14:05	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 14:05	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	108-67-8	
Vinyl chloride	1.8J	ug/L	4.0	0.70	4		01/19/17 14:05	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 14:05	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		4		01/19/17 14:05	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		4		01/19/17 14:05	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		01/19/17 14:05	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	134	mg/L	20.0	5.0	10		01/17/17 20:28	16887-00-6	
Sulfate	860	mg/L	150	50.0	50		01/18/17 14:08	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	244	mg/L	84.0	25.2	100		01/17/17 01:35	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: **IC07-TW-NE10-TOS** Lab ID: **40144482014** Collected: 01/12/17 09:52 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	355	ug/L	100	15.5	1		01/19/17 11:53	7439-89-6	
Manganese, Dissolved	7240	ug/L	5.0	1.1	1		01/19/17 11:53	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	7.0	ug/L	5.0	0.31	5	01/17/17 08:57	01/20/17 06:24	7440-39-3	
Chromium	122	ug/L	5.0	2.0	5	01/17/17 08:57	01/24/17 15:54	7440-47-3	
Lead	<0.20	ug/L	5.0	0.20	5	01/17/17 08:57	01/20/17 06:24	7439-92-1	D3
Nickel	24.9	ug/L	5.0	0.56	5	01/17/17 08:57	01/24/17 15:54	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:28	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 14:28	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 14:28	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 14:28	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 14:28	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 14:28	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 14:28	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 14:28	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 14:28	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 14:28	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 14:28	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 14:28	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 14:28	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 14:28	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 14:28	75-35-4	
cis-1,2-Dichloroethene	191	ug/L	4.0	1.0	4		01/19/17 14:28	156-59-2	
trans-1,2-Dichloroethene	14.9	ug/L	4.0	1.0	4		01/19/17 14:28	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 14:28	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 14:28	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 14:28	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:28	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-NE10-TOS **Lab ID:** 40144482014 Collected: 01/12/17 09:52 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 14:28	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 14:28	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		01/19/17 14:28	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 14:28	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 14:28	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 14:28	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 14:28	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 14:28	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 14:28	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 14:28	79-00-5	
Trichloroethene	491	ug/L	4.0	1.3	4		01/19/17 14:28	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 14:28	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	108-67-8	
Vinyl chloride	1.8J	ug/L	4.0	0.70	4		01/19/17 14:28	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 14:28	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:28	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	86	%	70-130		4		01/19/17 14:28	460-00-4	pH
Dibromofluoromethane (S)	104	%	70-130		4		01/19/17 14:28	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		01/19/17 14:28	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	63.5	mg/L	20.0	5.0	10		01/17/17 20:40	16887-00-6	
Sulfate	915	mg/L	150	50.0	50		01/18/17 14:20	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	417	mg/L	84.0	25.2	100		01/17/17 01:53	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-NE10-BOS **Lab ID: 40144482015** Collected: 01/12/17 10:47 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Iron, Dissolved	436	ug/L	100	34.0	1	01/18/17 09:19	01/19/17 12:54	7439-89-6	
Manganese, Dissolved	4000	ug/L	5.5	1.8	1	01/18/17 09:19	01/19/17 12:54	7439-96-5	P6
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3010									
Barium	9.4	ug/L	5.0	0.31	5	01/17/17 08:57	01/20/17 06:31	7440-39-3	
Chromium	189	ug/L	5.0	2.0	5	01/17/17 08:57	01/24/17 16:01	7440-47-3	
Lead	<0.20	ug/L	5.0	0.20	5	01/17/17 08:57	01/20/17 06:31	7439-92-1	D3
Nickel	23.7	ug/L	5.0	0.56	5	01/17/17 08:57	01/24/17 16:01	7440-02-0	
8260 MSV									
Analytical Method: EPA 8260									
Benzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:50	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		01/19/17 14:50	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		01/19/17 14:50	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		01/19/17 14:50	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		01/19/17 14:50	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		01/19/17 14:50	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		01/19/17 14:50	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		01/19/17 14:50	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		01/19/17 14:50	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		01/19/17 14:50	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		01/19/17 14:50	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		01/19/17 14:50	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		01/19/17 14:50	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		01/19/17 14:50	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		01/19/17 14:50	75-35-4	
cis-1,2-Dichloroethene	125	ug/L	4.0	1.0	4		01/19/17 14:50	156-59-2	
trans-1,2-Dichloroethene	9.6	ug/L	4.0	1.0	4		01/19/17 14:50	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		01/19/17 14:50	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		01/19/17 14:50	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		01/19/17 14:50	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		01/19/17 14:50	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-NE10-BOS **Lab ID: 40144482015** Collected: 01/12/17 10:47 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		01/19/17 14:50	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		01/19/17 14:50	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	99-87-6	
Methylene Chloride	1.1J	ug/L	4.0	0.93	4		01/19/17 14:50	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		01/19/17 14:50	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		01/19/17 14:50	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		01/19/17 14:50	630-20-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		01/19/17 14:50	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		01/19/17 14:50	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		01/19/17 14:50	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		01/19/17 14:50	79-00-5	
Trichloroethene	892	ug/L	4.0	1.3	4		01/19/17 14:50	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		01/19/17 14:50	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	108-67-8	
Vinyl chloride	1.3J	ug/L	4.0	0.70	4		01/19/17 14:50	75-01-4	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		01/19/17 14:50	179601-23-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		01/19/17 14:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	88	%	70-130		4		01/19/17 14:50	460-00-4	pH
Dibromofluoromethane (S)	105	%	70-130		4		01/19/17 14:50	1868-53-7	
Toluene-d8 (S)	100	%	70-130		4		01/19/17 14:50	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	68.7	mg/L	20.0	5.0	10		01/17/17 20:52	16887-00-6	
Sulfate	919	mg/L	150	50.0	50		01/18/17 15:08	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	486	mg/L	126	37.8	150		01/17/17 02:12	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10-TOS **Lab ID:** 40144482016 Collected: 01/12/17 12:33 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	<15.5	ug/L	100	15.5	1		01/19/17 11:56	7439-89-6	
Manganese, Dissolved	4220	ug/L	5.0	1.1	1		01/19/17 11:56	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	51.2	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 06:38	7440-39-3	
Chromium	<0.39	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 16:21	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 06:38	7439-92-1	
Nickel	8.0	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 16:21	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	71-43-2	
Bromobenzene	<23.0	ug/L	100	23.0	100		01/19/17 15:13	108-86-1	
Bromochloromethane	<34.0	ug/L	100	34.0	100		01/19/17 15:13	74-97-5	
Bromodichloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	75-27-4	
Bromoform	<50.0	ug/L	100	50.0	100		01/19/17 15:13	75-25-2	
Bromomethane	<243	ug/L	500	243	100		01/19/17 15:13	74-83-9	
n-Butylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	104-51-8	
sec-Butylbenzene	<219	ug/L	500	219	100		01/19/17 15:13	135-98-8	
tert-Butylbenzene	<18.0	ug/L	100	18.0	100		01/19/17 15:13	98-06-6	
Carbon tetrachloride	<50.0	ug/L	100	50.0	100		01/19/17 15:13	56-23-5	
Chlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	108-90-7	
Chloroethane	<37.5	ug/L	100	37.5	100		01/19/17 15:13	75-00-3	
Chloroform	<250	ug/L	500	250	100		01/19/17 15:13	67-66-3	
Chloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	74-87-3	
2-Chlorotoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	95-49-8	
4-Chlorotoluene	<21.4	ug/L	100	21.4	100		01/19/17 15:13	106-43-4	
1,2-Dibromo-3-chloropropane	<216	ug/L	500	216	100		01/19/17 15:13	96-12-8	
Dibromochloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	124-48-1	
1,2-Dibromoethane (EDB)	<17.8	ug/L	100	17.8	100		01/19/17 15:13	106-93-4	
Dibromomethane	<42.7	ug/L	100	42.7	100		01/19/17 15:13	74-95-3	
1,2-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	95-50-1	
1,3-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	541-73-1	
1,4-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	106-46-7	
Dichlorodifluoromethane	<22.4	ug/L	100	22.4	100		01/19/17 15:13	75-71-8	
1,1-Dichloroethane	<24.2	ug/L	100	24.2	100		01/19/17 15:13	75-34-3	
1,2-Dichloroethane	<16.8	ug/L	100	16.8	100		01/19/17 15:13	107-06-2	
1,1-Dichloroethene	<41.0	ug/L	100	41.0	100		01/19/17 15:13	75-35-4	
cis-1,2-Dichloroethene	2840	ug/L	100	25.6	100		01/19/17 15:13	156-59-2	
trans-1,2-Dichloroethene	190	ug/L	100	25.7	100		01/19/17 15:13	156-60-5	
1,2-Dichloropropane	<23.3	ug/L	100	23.3	100		01/19/17 15:13	78-87-5	
1,3-Dichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	142-28-9	
2,2-Dichloropropane	<48.4	ug/L	100	48.4	100		01/19/17 15:13	594-20-7	
1,1-Dichloropropene	<44.1	ug/L	100	44.1	100		01/19/17 15:13	563-58-6	
cis-1,3-Dichloropropene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	10061-01-5	
trans-1,3-Dichloropropene	<23.0	ug/L	100	23.0	100		01/19/17 15:13	10061-02-6	
Diisopropyl ether	<50.0	ug/L	100	50.0	100		01/19/17 15:13	108-20-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10-TOS **Lab ID: 40144482016** Collected: 01/12/17 12:33 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	100-41-4	
Hexachloro-1,3-butadiene	<211	ug/L	500	211	100		01/19/17 15:13	87-68-3	
Isopropylbenzene (Cumene)	<14.3	ug/L	100	14.3	100		01/19/17 15:13	98-82-8	
p-Isopropyltoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	99-87-6	
Methylene Chloride	<23.3	ug/L	100	23.3	100		01/19/17 15:13	75-09-2	
Methyl-tert-butyl ether	<17.4	ug/L	100	17.4	100		01/19/17 15:13	1634-04-4	
Naphthalene	<250	ug/L	500	250	100		01/19/17 15:13	91-20-3	
n-Propylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	103-65-1	
Styrene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	100-42-5	
1,1,1,2-Tetrachloroethane	<18.1	ug/L	100	18.1	100		01/19/17 15:13	630-20-6	
1,1,2,2-Tetrachloroethane	<24.9	ug/L	100	24.9	100		01/19/17 15:13	79-34-5	
Tetrachloroethene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	127-18-4	
Toluene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	108-88-3	
1,2,3-Trichlorobenzene	<213	ug/L	500	213	100		01/19/17 15:13	87-61-6	
1,2,4-Trichlorobenzene	<221	ug/L	500	221	100		01/19/17 15:13	120-82-1	
1,1,1-Trichloroethane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	71-55-6	
1,1,2-Trichloroethane	<19.7	ug/L	100	19.7	100		01/19/17 15:13	79-00-5	
Trichloroethene	20300	ug/L	100	33.1	100		01/19/17 15:13	79-01-6	
Trichlorofluoromethane	<18.5	ug/L	100	18.5	100		01/19/17 15:13	75-69-4	
1,2,3-Trichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:13	96-18-4	
1,2,4-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	95-63-6	
1,3,5-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	108-67-8	
Vinyl chloride	69.1J	ug/L	100	17.6	100		01/19/17 15:13	75-01-4	
m&p-Xylene	<100	ug/L	200	100	100		01/19/17 15:13	179601-23-1	
o-Xylene	<50.0	ug/L	100	50.0	100		01/19/17 15:13	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	84	%	70-130		100		01/19/17 15:13	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		100		01/19/17 15:13	1868-53-7	
Toluene-d8 (S)	98	%	70-130		100		01/19/17 15:13	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	154	mg/L	20.0	5.0	10		01/17/17 21:04	16887-00-6	
Sulfate	452	mg/L	30.0	10.0	10		01/17/17 21:04	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	16.7	mg/L	8.4	2.5	10		01/17/17 02:31	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10 DUP **Lab ID: 40144482017** Collected: 01/12/17 12:30 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	17.3J	ug/L	100	15.5	1		01/19/17 13:06	7439-89-6	
Manganese, Dissolved	3940	ug/L	5.0	1.1	1		01/19/17 13:06	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	51.2	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 06:45	7440-39-3	
Chromium	0.40J	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 16:28	7440-47-3	
Lead	<0.040	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 06:45	7439-92-1	
Nickel	7.8	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 16:28	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	71-43-2	
Bromobenzene	<23.0	ug/L	100	23.0	100		01/19/17 15:36	108-86-1	
Bromochloromethane	<34.0	ug/L	100	34.0	100		01/19/17 15:36	74-97-5	
Bromodichloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	75-27-4	
Bromoform	<50.0	ug/L	100	50.0	100		01/19/17 15:36	75-25-2	
Bromomethane	<243	ug/L	500	243	100		01/19/17 15:36	74-83-9	
n-Butylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	104-51-8	
sec-Butylbenzene	<219	ug/L	500	219	100		01/19/17 15:36	135-98-8	
tert-Butylbenzene	<18.0	ug/L	100	18.0	100		01/19/17 15:36	98-06-6	
Carbon tetrachloride	<50.0	ug/L	100	50.0	100		01/19/17 15:36	56-23-5	
Chlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	108-90-7	
Chloroethane	<37.5	ug/L	100	37.5	100		01/19/17 15:36	75-00-3	
Chloroform	<250	ug/L	500	250	100		01/19/17 15:36	67-66-3	
Chloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	74-87-3	
2-Chlorotoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	95-49-8	
4-Chlorotoluene	<21.4	ug/L	100	21.4	100		01/19/17 15:36	106-43-4	
1,2-Dibromo-3-chloropropane	<216	ug/L	500	216	100		01/19/17 15:36	96-12-8	
Dibromochloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	124-48-1	
1,2-Dibromoethane (EDB)	<17.8	ug/L	100	17.8	100		01/19/17 15:36	106-93-4	
Dibromomethane	<42.7	ug/L	100	42.7	100		01/19/17 15:36	74-95-3	
1,2-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	95-50-1	
1,3-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	541-73-1	
1,4-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	106-46-7	
Dichlorodifluoromethane	<22.4	ug/L	100	22.4	100		01/19/17 15:36	75-71-8	
1,1-Dichloroethane	<24.2	ug/L	100	24.2	100		01/19/17 15:36	75-34-3	
1,2-Dichloroethane	<16.8	ug/L	100	16.8	100		01/19/17 15:36	107-06-2	
1,1-Dichloroethene	<41.0	ug/L	100	41.0	100		01/19/17 15:36	75-35-4	
cis-1,2-Dichloroethene	3340	ug/L	100	25.6	100		01/19/17 15:36	156-59-2	
trans-1,2-Dichloroethene	214	ug/L	100	25.7	100		01/19/17 15:36	156-60-5	
1,2-Dichloropropane	<23.3	ug/L	100	23.3	100		01/19/17 15:36	78-87-5	
1,3-Dichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	142-28-9	
2,2-Dichloropropane	<48.4	ug/L	100	48.4	100		01/19/17 15:36	594-20-7	
1,1-Dichloropropene	<44.1	ug/L	100	44.1	100		01/19/17 15:36	563-58-6	
cis-1,3-Dichloropropene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	10061-01-5	
trans-1,3-Dichloropropene	<23.0	ug/L	100	23.0	100		01/19/17 15:36	10061-02-6	
Diisopropyl ether	<50.0	ug/L	100	50.0	100		01/19/17 15:36	108-20-3	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10 DUP **Lab ID: 40144482017** Collected: 01/12/17 12:30 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Ethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	100-41-4	
Hexachloro-1,3-butadiene	<211	ug/L	500	211	100		01/19/17 15:36	87-68-3	
Isopropylbenzene (Cumene)	<14.3	ug/L	100	14.3	100		01/19/17 15:36	98-82-8	
p-Isopropyltoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	99-87-6	
Methylene Chloride	<23.3	ug/L	100	23.3	100		01/19/17 15:36	75-09-2	
Methyl-tert-butyl ether	<17.4	ug/L	100	17.4	100		01/19/17 15:36	1634-04-4	
Naphthalene	<250	ug/L	500	250	100		01/19/17 15:36	91-20-3	
n-Propylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	103-65-1	
Styrene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	100-42-5	
1,1,1,2-Tetrachloroethane	<18.1	ug/L	100	18.1	100		01/19/17 15:36	630-20-6	
1,1,2,2-Tetrachloroethane	<24.9	ug/L	100	24.9	100		01/19/17 15:36	79-34-5	
Tetrachloroethene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	127-18-4	
Toluene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	108-88-3	
1,2,3-Trichlorobenzene	<213	ug/L	500	213	100		01/19/17 15:36	87-61-6	
1,2,4-Trichlorobenzene	<221	ug/L	500	221	100		01/19/17 15:36	120-82-1	
1,1,1-Trichloroethane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	71-55-6	
1,1,2-Trichloroethane	<19.7	ug/L	100	19.7	100		01/19/17 15:36	79-00-5	
Trichloroethene	26600	ug/L	100	33.1	100		01/19/17 15:36	79-01-6	
Trichlorofluoromethane	<18.5	ug/L	100	18.5	100		01/19/17 15:36	75-69-4	
1,2,3-Trichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:36	96-18-4	
1,2,4-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	95-63-6	
1,3,5-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	108-67-8	
Vinyl chloride	71.1J	ug/L	100	17.6	100		01/19/17 15:36	75-01-4	
m&p-Xylene	<100	ug/L	200	100	100		01/19/17 15:36	179601-23-1	
o-Xylene	<50.0	ug/L	100	50.0	100		01/19/17 15:36	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		100		01/19/17 15:36	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		100		01/19/17 15:36	1868-53-7	
Toluene-d8 (S)	98	%	70-130		100		01/19/17 15:36	2037-26-5	
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	157	mg/L	20.0	5.0	10		01/17/17 21:16	16887-00-6	
Sulfate	454	mg/L	30.0	10.0	10		01/17/17 21:16	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	16.0	mg/L	8.4	2.5	10		01/17/17 03:09	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10-BOS **Lab ID:** 40144482018 Collected: 01/12/17 13:37 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, Dissolved		Analytical Method: EPA 6010							
Iron, Dissolved	<15.5	ug/L	100	15.5	1		01/19/17 12:05	7439-89-6	
Manganese, Dissolved	4770	ug/L	5.0	1.1	1		01/19/17 12:05	7439-96-5	
6020 MET ICPMS		Analytical Method: EPA 6020 Preparation Method: EPA 3010							
Barium	39.9	ug/L	1.0	0.062	1	01/17/17 08:57	01/20/17 06:52	7440-39-3	
Chromium	0.77J	ug/L	1.0	0.39	1	01/17/17 08:57	01/24/17 16:35	7440-47-3	
Lead	0.064J	ug/L	1.0	0.040	1	01/17/17 08:57	01/20/17 06:52	7439-92-1	
Nickel	9.8	ug/L	1.0	0.11	1	01/17/17 08:57	01/24/17 16:35	7440-02-0	
8260 MSV		Analytical Method: EPA 8260							
Benzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	71-43-2	
Bromobenzene	<23.0	ug/L	100	23.0	100		01/19/17 15:58	108-86-1	
Bromochloromethane	<34.0	ug/L	100	34.0	100		01/19/17 15:58	74-97-5	
Bromodichloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	75-27-4	
Bromoform	<50.0	ug/L	100	50.0	100		01/19/17 15:58	75-25-2	
Bromomethane	<243	ug/L	500	243	100		01/19/17 15:58	74-83-9	
n-Butylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	104-51-8	
sec-Butylbenzene	<219	ug/L	500	219	100		01/19/17 15:58	135-98-8	
tert-Butylbenzene	<18.0	ug/L	100	18.0	100		01/19/17 15:58	98-06-6	
Carbon tetrachloride	<50.0	ug/L	100	50.0	100		01/19/17 15:58	56-23-5	
Chlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	108-90-7	
Chloroethane	<37.5	ug/L	100	37.5	100		01/19/17 15:58	75-00-3	
Chloroform	<250	ug/L	500	250	100		01/19/17 15:58	67-66-3	
Chloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	74-87-3	
2-Chlorotoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	95-49-8	
4-Chlorotoluene	<21.4	ug/L	100	21.4	100		01/19/17 15:58	106-43-4	
1,2-Dibromo-3-chloropropane	<216	ug/L	500	216	100		01/19/17 15:58	96-12-8	
Dibromochloromethane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	124-48-1	
1,2-Dibromoethane (EDB)	<17.8	ug/L	100	17.8	100		01/19/17 15:58	106-93-4	
Dibromomethane	<42.7	ug/L	100	42.7	100		01/19/17 15:58	74-95-3	
1,2-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	95-50-1	
1,3-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	541-73-1	
1,4-Dichlorobenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	106-46-7	
Dichlorodifluoromethane	<22.4	ug/L	100	22.4	100		01/19/17 15:58	75-71-8	
1,1-Dichloroethane	<24.2	ug/L	100	24.2	100		01/19/17 15:58	75-34-3	
1,2-Dichloroethane	<16.8	ug/L	100	16.8	100		01/19/17 15:58	107-06-2	
1,1-Dichloroethene	<41.0	ug/L	100	41.0	100		01/19/17 15:58	75-35-4	
cis-1,2-Dichloroethene	3160	ug/L	100	25.6	100		01/19/17 15:58	156-59-2	
trans-1,2-Dichloroethene	209	ug/L	100	25.7	100		01/19/17 15:58	156-60-5	
1,2-Dichloropropane	<23.3	ug/L	100	23.3	100		01/19/17 15:58	78-87-5	
1,3-Dichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	142-28-9	
2,2-Dichloropropane	<48.4	ug/L	100	48.4	100		01/19/17 15:58	594-20-7	
1,1-Dichloropropene	<44.1	ug/L	100	44.1	100		01/19/17 15:58	563-58-6	
cis-1,3-Dichloropropene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	10061-01-5	
trans-1,3-Dichloropropene	<23.0	ug/L	100	23.0	100		01/19/17 15:58	10061-02-6	
Diisopropyl ether	<50.0	ug/L	100	50.0	100		01/19/17 15:58	108-20-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: IC07-TW-SE10-BOS **Lab ID: 40144482018** Collected: 01/12/17 13:37 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Ethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	100-41-4	
Hexachloro-1,3-butadiene	<211	ug/L	500	211	100		01/19/17 15:58	87-68-3	
Isopropylbenzene (Cumene)	<14.3	ug/L	100	14.3	100		01/19/17 15:58	98-82-8	
p-Isopropyltoluene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	99-87-6	
Methylene Chloride	<23.3	ug/L	100	23.3	100		01/19/17 15:58	75-09-2	
Methyl-tert-butyl ether	<17.4	ug/L	100	17.4	100		01/19/17 15:58	1634-04-4	
Naphthalene	<250	ug/L	500	250	100		01/19/17 15:58	91-20-3	
n-Propylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	103-65-1	
Styrene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	100-42-5	
1,1,1,2-Tetrachloroethane	<18.1	ug/L	100	18.1	100		01/19/17 15:58	630-20-6	
1,1,2,2-Tetrachloroethane	<24.9	ug/L	100	24.9	100		01/19/17 15:58	79-34-5	
Tetrachloroethene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	127-18-4	
Toluene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	108-88-3	
1,2,3-Trichlorobenzene	<213	ug/L	500	213	100		01/19/17 15:58	87-61-6	
1,2,4-Trichlorobenzene	<221	ug/L	500	221	100		01/19/17 15:58	120-82-1	
1,1,1-Trichloroethane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	71-55-6	
1,1,2-Trichloroethane	<19.7	ug/L	100	19.7	100		01/19/17 15:58	79-00-5	
Trichloroethene	22700	ug/L	100	33.1	100		01/19/17 15:58	79-01-6	
Trichlorofluoromethane	<18.5	ug/L	100	18.5	100		01/19/17 15:58	75-69-4	
1,2,3-Trichloropropane	<50.0	ug/L	100	50.0	100		01/19/17 15:58	96-18-4	
1,2,4-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	95-63-6	
1,3,5-Trimethylbenzene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	108-67-8	
Vinyl chloride	64.1J	ug/L	100	17.6	100		01/19/17 15:58	75-01-4	
m&p-Xylene	<100	ug/L	200	100	100		01/19/17 15:58	179601-23-1	
o-Xylene	<50.0	ug/L	100	50.0	100		01/19/17 15:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	91	%	70-130		100		01/19/17 15:58	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		100		01/19/17 15:58	1868-53-7	
Toluene-d8 (S)	101	%	70-130		100		01/19/17 15:58	2037-26-5	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	164	mg/L	20.0	5.0	10		01/17/17 21:28	16887-00-6	
Sulfate	451	mg/L	30.0	10.0	10		01/17/17 21:28	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	17.6	mg/L	8.4	2.5	10		01/17/17 03:28	7440-44-0	

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: TRIP BLANK **Lab ID: 40144482019** Collected: 01/12/17 16:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		01/19/17 17:06	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		01/19/17 17:06	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		01/19/17 17:06	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		01/19/17 17:06	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		01/19/17 17:06	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		01/19/17 17:06	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		01/19/17 17:06	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		01/19/17 17:06	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		01/19/17 17:06	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		01/19/17 17:06	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		01/19/17 17:06	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		01/19/17 17:06	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		01/19/17 17:06	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		01/19/17 17:06	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		01/19/17 17:06	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/19/17 17:06	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		01/19/17 17:06	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		01/19/17 17:06	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		01/19/17 17:06	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		01/19/17 17:06	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		01/19/17 17:06	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		01/19/17 17:06	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		01/19/17 17:06	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		01/19/17 17:06	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		01/19/17 17:06	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		01/19/17 17:06	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		01/19/17 17:06	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412-1 KEP

Pace Project No.: 40144482

Sample: TRIP BLANK **Lab ID: 40144482019** Collected: 01/12/17 16:00 Received: 01/13/17 15:25 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		01/19/17 17:06	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		01/19/17 17:06	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		01/19/17 17:06	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		01/19/17 17:06	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		01/19/17 17:06	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		01/19/17 17:06	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		01/19/17 17:06	75-01-4	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		01/19/17 17:06	179601-23-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		01/19/17 17:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	87	%	70-130		1		01/19/17 17:06	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		01/19/17 17:06	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		01/19/17 17:06	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412-1 KEP
Pace Project No.: 40144482

QC Batch: 246539 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40144482001, 40144482003, 40144482004

METHOD BLANK: 1457731 Matrix: Water
Associated Lab Samples: 40144482001, 40144482003, 40144482004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<15.5	100	01/19/17 08:05	
Manganese, Dissolved	ug/L	<1.1	5.0	01/19/17 08:05	

LABORATORY CONTROL SAMPLE: 1457732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	5000	100	80-120	
Manganese, Dissolved	ug/L	500	475	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457733 1457734

Parameter	Units	40144392001		40144392001		40144392001		40144392001		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Iron, Dissolved	ug/L	<15.5	5000	5000	5190	5160	104	103	75-125	1	20		
Manganese, Dissolved	ug/L	<1.1	500	500	498	487	99	97	75-125	2	20		

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QUALITY CONTROL DATA

Project: 60518412-1 KEP
Pace Project No.: 40144482

QC Batch: 246549 Analysis Method: EPA 6010
QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved
Associated Lab Samples: 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482016, 40144482017, 40144482018

METHOD BLANK: 1457774 Matrix: Water
Associated Lab Samples: 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482016, 40144482017, 40144482018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<15.5	100	01/19/17 11:08	
Manganese, Dissolved	ug/L	<1.1	5.0	01/19/17 11:08	

LABORATORY CONTROL SAMPLE: 1457775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	4910	98	80-120	
Manganese, Dissolved	ug/L	500	470	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457776 1457777

Parameter	Units	40144471001 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Iron, Dissolved	ug/L	<15.5	5000	5000	5000	4950	100	99	75-125	1	20	
Manganese, Dissolved	ug/L	37.5	500	500	508	504	94	93	75-125	1	20	

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QUALITY CONTROL DATA

Project: 60518412-1 KEP

Pace Project No.: 40144482

QC Batch: 246544 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 40144482002, 40144482015

METHOD BLANK: 1457753 Matrix: Water

Associated Lab Samples: 40144482002, 40144482015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	<34.0	100	01/19/17 12:49	
Manganese, Dissolved	ug/L	<1.8	5.5	01/19/17 12:49	

LABORATORY CONTROL SAMPLE: 1457754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	4900	98	80-120	
Manganese, Dissolved	ug/L	500	448	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457755 1457756

Parameter	Units	40144482015		1457756		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Iron, Dissolved	ug/L	436	5000	5420	5390	100	99	75-125	1	20	
Manganese, Dissolved	ug/L	4000	500	4350	4290	70	59	75-125	1	20 P6	

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QUALITY CONTROL DATA

Project: 60518412-1 KEP

Pace Project No.: 40144482

QC Batch: 246435 Analysis Method: EPA 6020
 QC Batch Method: EPA 3010 Analysis Description: 6020 MET
 Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

METHOD BLANK: 1457447 Matrix: Water
 Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	0.079J	1.0	01/20/17 03:21	
Chromium	ug/L	<0.39	1.0	01/20/17 03:21	
Lead	ug/L	<0.040	1.0	01/20/17 03:21	
Nickel	ug/L	<0.11	1.0	01/20/17 03:21	

LABORATORY CONTROL SAMPLE: 1457448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	517	103	80-120	
Chromium	ug/L	500	508	102	80-120	
Lead	ug/L	500	482	96	80-120	
Nickel	ug/L	500	580	116	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457449 1457450

Parameter	Units	40144482003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	77.0	500	500	589	583	102	101	75-125	1	20	
Chromium	ug/L	0.57J	500	500	487	481	97	96	75-125	1	20	
Lead	ug/L	0.24J	500	500	493	480	99	96	75-125	3	20	
Nickel	ug/L	8.6	500	500	466	456	92	89	75-125	2	20	

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QUALITY CONTROL DATA

Project: 60518412-1 KEP

Pace Project No.: 40144482

QC Batch: 246343 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018, 40144482019

METHOD BLANK: 1457083 Matrix: Water
Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018, 40144482019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	01/19/17 07:17	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	01/19/17 07:17	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	01/19/17 07:17	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	01/19/17 07:17	
1,1-Dichloroethane	ug/L	<0.24	1.0	01/19/17 07:17	
1,1-Dichloroethene	ug/L	<0.41	1.0	01/19/17 07:17	
1,1-Dichloropropene	ug/L	<0.44	1.0	01/19/17 07:17	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	01/19/17 07:17	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	01/19/17 07:17	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	01/19/17 07:17	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	01/19/17 07:17	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	01/19/17 07:17	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	01/19/17 07:17	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	01/19/17 07:17	
1,2-Dichloroethane	ug/L	<0.17	1.0	01/19/17 07:17	
1,2-Dichloropropane	ug/L	<0.23	1.0	01/19/17 07:17	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	01/19/17 07:17	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	01/19/17 07:17	
1,3-Dichloropropane	ug/L	<0.50	1.0	01/19/17 07:17	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	01/19/17 07:17	
2,2-Dichloropropane	ug/L	<0.48	1.0	01/19/17 07:17	
2-Chlorotoluene	ug/L	<0.50	1.0	01/19/17 07:17	
4-Chlorotoluene	ug/L	<0.21	1.0	01/19/17 07:17	
Benzene	ug/L	<0.50	1.0	01/19/17 07:17	
Bromobenzene	ug/L	<0.23	1.0	01/19/17 07:17	
Bromochloromethane	ug/L	<0.34	1.0	01/19/17 07:17	
Bromodichloromethane	ug/L	<0.50	1.0	01/19/17 07:17	
Bromoform	ug/L	<0.50	1.0	01/19/17 07:17	
Bromomethane	ug/L	<2.4	5.0	01/19/17 07:17	
Carbon tetrachloride	ug/L	<0.50	1.0	01/19/17 07:17	
Chlorobenzene	ug/L	<0.50	1.0	01/19/17 07:17	
Chloroethane	ug/L	<0.37	1.0	01/19/17 07:17	
Chloroform	ug/L	<2.5	5.0	01/19/17 07:17	
Chloromethane	ug/L	<0.50	1.0	01/19/17 07:17	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	01/19/17 07:17	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	01/19/17 07:17	
Dibromochloromethane	ug/L	<0.50	1.0	01/19/17 07:17	
Dibromomethane	ug/L	<0.43	1.0	01/19/17 07:17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412-1 KEP

Pace Project No.: 40144482

METHOD BLANK: 1457083

Matrix: Water

Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018, 40144482019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.22	1.0	01/19/17 07:17	
Diisopropyl ether	ug/L	<0.50	1.0	01/19/17 07:17	
Ethylbenzene	ug/L	<0.50	1.0	01/19/17 07:17	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	01/19/17 07:17	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	01/19/17 07:17	
m&p-Xylene	ug/L	<1.0	2.0	01/19/17 07:17	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	01/19/17 07:17	
Methylene Chloride	ug/L	<0.23	1.0	01/19/17 07:17	
n-Butylbenzene	ug/L	<0.50	1.0	01/19/17 07:17	
n-Propylbenzene	ug/L	<0.50	1.0	01/19/17 07:17	
Naphthalene	ug/L	<2.5	5.0	01/19/17 07:17	
o-Xylene	ug/L	<0.50	1.0	01/19/17 07:17	
p-Isopropyltoluene	ug/L	<0.50	1.0	01/19/17 07:17	
sec-Butylbenzene	ug/L	<2.2	5.0	01/19/17 07:17	
Styrene	ug/L	<0.50	1.0	01/19/17 07:17	
tert-Butylbenzene	ug/L	<0.18	1.0	01/19/17 07:17	
Tetrachloroethene	ug/L	<0.50	1.0	01/19/17 07:17	
Toluene	ug/L	<0.50	1.0	01/19/17 07:17	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	01/19/17 07:17	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	01/19/17 07:17	
Trichloroethene	ug/L	<0.33	1.0	01/19/17 07:17	
Trichlorofluoromethane	ug/L	<0.18	1.0	01/19/17 07:17	
Vinyl chloride	ug/L	<0.18	1.0	01/19/17 07:17	
4-Bromofluorobenzene (S)	%	91	70-130	01/19/17 07:17	
Dibromofluoromethane (S)	%	100	70-130	01/19/17 07:17	
Toluene-d8 (S)	%	98	70-130	01/19/17 07:17	

LABORATORY CONTROL SAMPLE: 1457084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.8	110	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	49.7	99	67-130	
1,1,2-Trichloroethane	ug/L	50	50.3	101	70-130	
1,1-Dichloroethane	ug/L	50	53.4	107	70-133	
1,1-Dichloroethene	ug/L	50	55.1	110	70-130	
1,2,4-Trichlorobenzene	ug/L	50	53.4	107	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	49.3	99	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	52.0	104	70-130	
1,2-Dichlorobenzene	ug/L	50	52.0	104	70-130	
1,2-Dichloroethane	ug/L	50	51.9	104	70-130	
1,2-Dichloropropane	ug/L	50	53.9	108	70-130	
1,3-Dichlorobenzene	ug/L	50	51.8	104	70-130	

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QUALITY CONTROL DATA

Project: 60518412-1 KEP
Pace Project No.: 40144482

LABORATORY CONTROL SAMPLE: 1457084

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	50	52.0	104	70-130	
Benzene	ug/L	50	57.4	115	60-135	
Bromodichloromethane	ug/L	50	53.1	106	70-130	
Bromoform	ug/L	50	49.8	100	70-130	
Bromomethane	ug/L	50	48.8	98	33-130	
Carbon tetrachloride	ug/L	50	53.9	108	70-138	
Chlorobenzene	ug/L	50	53.4	107	70-130	
Chloroethane	ug/L	50	59.9	120	51-130	
Chloroform	ug/L	50	53.4	107	70-130	
Chloromethane	ug/L	50	57.2	114	25-132	
cis-1,2-Dichloroethene	ug/L	50	51.0	102	69-130	
cis-1,3-Dichloropropene	ug/L	50	53.6	107	70-130	
Dibromochloromethane	ug/L	50	52.0	104	70-130	
Dichlorodifluoromethane	ug/L	50	49.1	98	23-130	
Ethylbenzene	ug/L	50	57.8	116	70-136	
Isopropylbenzene (Cumene)	ug/L	50	59.1	118	70-140	
m&p-Xylene	ug/L	100	115	115	70-138	
Methyl-tert-butyl ether	ug/L	50	55.3	111	66-138	
Methylene Chloride	ug/L	50	50.8	102	70-130	
o-Xylene	ug/L	50	57.6	115	70-134	
Styrene	ug/L	50	54.2	108	70-133	
Tetrachloroethene	ug/L	50	54.2	108	70-138	
Toluene	ug/L	50	58.3	117	70-130	
trans-1,2-Dichloroethene	ug/L	50	53.3	107	70-131	
trans-1,3-Dichloropropene	ug/L	50	50.0	100	69-130	
Trichloroethene	ug/L	50	54.4	109	70-130	
Trichlorofluoromethane	ug/L	50	59.4	119	50-150	
Vinyl chloride	ug/L	50	61.9	124	49-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Dibromofluoromethane (S)	%			98	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1458142 1458143

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40144482001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<2.5	500	500	547	528	109	106	70-134	4	20	
1,1,2,2-Tetrachloroethane	ug/L	<1.2	500	500	510	498	102	100	67-130	2	20	
1,1,2-Trichloroethane	ug/L	<0.99	500	500	501	518	100	104	70-130	3	20	
1,1-Dichloroethane	ug/L	<1.2	500	500	533	522	107	104	70-134	2	20	
1,1-Dichloroethene	ug/L	<2.1	500	500	547	550	109	110	68-136	0	20	
1,2,4-Trichlorobenzene	ug/L	<11.0	500	500	589	560	118	112	62-139	5	20	
1,2-Dibromo-3-chloropropane	ug/L	<10.8	500	500	488	489	98	98	50-150	0	20	
1,2-Dibromoethane (EDB)	ug/L	<0.89	500	500	518	545	104	109	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412-1 KEP
Pace Project No.: 40144482

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1458142		1458143		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40144482001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
1,2-Dichlorobenzene	ug/L	<2.5	500	500	523	507	105	101	70-130	3	20	
1,2-Dichloroethane	ug/L	<0.84	500	500	518	510	104	102	70-130	2	20	
1,2-Dichloropropane	ug/L	<1.2	500	500	533	517	107	103	70-130	3	20	
1,3-Dichlorobenzene	ug/L	<2.5	500	500	541	515	108	103	70-131	5	20	
1,4-Dichlorobenzene	ug/L	<2.5	500	500	532	491	106	98	70-130	8	20	
Benzene	ug/L	<2.5	500	500	561	560	112	112	57-138	0	20	
Bromodichloromethane	ug/L	<2.5	500	500	528	522	106	104	70-130	1	20	
Bromoform	ug/L	<2.5	500	500	497	514	99	103	70-130	3	20	
Bromomethane	ug/L	<12.2	500	500	539	565	108	113	33-130	5	27	
Carbon tetrachloride	ug/L	<2.5	500	500	552	543	110	109	70-138	2	20	
Chlorobenzene	ug/L	<2.5	500	500	533	537	107	107	70-130	1	20	
Chloroethane	ug/L	<1.9	500	500	590	585	118	117	51-130	1	20	
Chloroform	ug/L	<12.5	500	500	538	533	107	106	70-130	1	20	
Chloromethane	ug/L	<2.5	500	500	594	593	119	119	25-132	0	20	
cis-1,2-Dichloroethene	ug/L	166	500	500	658	700	98	107	61-140	6	20	
cis-1,3-Dichloropropene	ug/L	<2.5	500	500	530	524	106	105	70-130	1	20	
Dibromochloromethane	ug/L	<2.5	500	500	507	529	101	106	70-130	4	20	
Dichlorodifluoromethane	ug/L	<1.1	500	500	485	479	97	96	23-130	1	20	
Ethylbenzene	ug/L	<2.5	500	500	586	604	117	121	70-138	3	20	
Isopropylbenzene (Cumene)	ug/L	<0.72	500	500	604	630	121	126	70-152	4	20	
m&p-Xylene	ug/L	<5.0	1000	1000	1200	1240	120	124	70-140	4	20	
Methyl-tert-butyl ether	ug/L	<0.87	500	500	542	531	108	106	66-139	2	20	
Methylene Chloride	ug/L	<1.2	500	500	504	491	101	98	70-130	3	20	
o-Xylene	ug/L	<2.5	500	500	584	623	117	125	70-134	6	20	
Styrene	ug/L	<2.5	500	500	553	577	111	115	70-138	4	20	
Tetrachloroethene	ug/L	<2.5	500	500	530	572	106	114	70-148	8	20	
Toluene	ug/L	<2.5	500	500	581	605	116	121	70-130	4	20	
trans-1,2-Dichloroethene	ug/L	17.9	500	500	555	539	107	104	70-133	3	20	
trans-1,3-Dichloropropene	ug/L	<1.1	500	500	494	515	99	103	69-130	4	20	
Trichloroethene	ug/L	216	500	500	787	783	114	114	70-131	0	20	
Trichlorofluoromethane	ug/L	<0.92	500	500	589	588	118	118	50-150	0	20	
Vinyl chloride	ug/L	3.8J	500	500	610	607	121	121	49-133	0	20	
4-Bromofluorobenzene (S)	%						99	101	70-130			
Dibromofluoromethane (S)	%						98	98	70-130			
Toluene-d8 (S)	%						98	104	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412-1 KEP

Pace Project No.: 40144482

QC Batch: 246345 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

METHOD BLANK: 1457089 Matrix: Water
 Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	<0.50	2.0	01/17/17 14:21	
Sulfate	mg/L	<1.0	3.0	01/17/17 14:21	

LABORATORY CONTROL SAMPLE: 1457090

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.1	101	90-110	
Sulfate	mg/L	20	20.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457091 1457092

Parameter	Units	40144482001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	96.6	200	200	308	314	106	109	90-110	2	15	
Sulfate	mg/L	854	1000	1000	1790	1770	93	91	90-110	1	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457093 1457094

Parameter	Units	40144396001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	169	400	400	609	608	110	110	90-110	0	15	
Sulfate	mg/L	792	2000	2000	2950	2880	108	104	90-110	2	15	

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QUALITY CONTROL DATA

Project: 60518412-1 KEP
Pace Project No.: 40144482

QC Batch: 246359 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon
Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

METHOD BLANK: 1457204 Matrix: Water
Associated Lab Samples: 40144482001, 40144482002, 40144482003, 40144482004, 40144482005, 40144482006, 40144482007, 40144482008, 40144482009, 40144482010, 40144482011, 40144482012, 40144482013, 40144482014, 40144482015, 40144482016, 40144482017, 40144482018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.25	0.84	01/16/17 19:18	

LABORATORY CONTROL SAMPLE: 1457205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	2.5	2.5	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457206 1457207

Parameter	Units	40144482006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	15.3	10	10	25.7	25.7	104	104	80-120	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1457208 1457209

Parameter	Units	40144482007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	14.5	10	10	25.7	26.0	113	115	80-120	1	10	

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QUALIFIERS

Project: 60518412-1 KEP

Pace Project No.: 40144482

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412-1 KEP

Pace Project No.: 40144482

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40144482002	CS-3-PZ-302	EPA 3010	246544	EPA 6010	246600
40144482015	ICO7-TW-NE10-BOS	EPA 3010	246544	EPA 6010	246600
40144482001	CS-3-MW-302	EPA 6010	246539		
40144482003	CS-3-MW-317	EPA 6010	246539		
40144482004	CS-3-MW-317 DUP	EPA 6010	246539		
40144482005	CS-3-PZ-317	EPA 6010	246549		
40144482006	ICO1-TW-SE5-TOS	EPA 6010	246549		
40144482007	ICO1-TW-SE5-BOS	EPA 6010	246549		
40144482008	ICO1-TW-SE7.5-TOS	EPA 6010	246549		
40144482009	ICO1-TW-SE7.5-BOS	EPA 6010	246549		
40144482010	ICO6-TW-NE5-TOS	EPA 6010	246549		
40144482011	ICO6-TW-NE5-BOS	EPA 6010	246549		
40144482012	ICO6-TW-NE7.5-TOS	EPA 6010	246549		
40144482013	ICO6-TW-NE7.5-BOS	EPA 6010	246549		
40144482014	ICO7-TW-NE10-TOS	EPA 6010	246549		
40144482016	ICO7-TW-SE10-TOS	EPA 6010	246549		
40144482017	ICO7-TW-SE10 DUP	EPA 6010	246549		
40144482018	ICO7-TW-SE10-BOS	EPA 6010	246549		
40144482001	CS-3-MW-302	EPA 3010	246435	EPA 6020	246515
40144482002	CS-3-PZ-302	EPA 3010	246435	EPA 6020	246515
40144482003	CS-3-MW-317	EPA 3010	246435	EPA 6020	246515
40144482004	CS-3-MW-317 DUP	EPA 3010	246435	EPA 6020	246515
40144482005	CS-3-PZ-317	EPA 3010	246435	EPA 6020	246515
40144482006	ICO1-TW-SE5-TOS	EPA 3010	246435	EPA 6020	246515
40144482007	ICO1-TW-SE5-BOS	EPA 3010	246435	EPA 6020	246515
40144482008	ICO1-TW-SE7.5-TOS	EPA 3010	246435	EPA 6020	246515
40144482009	ICO1-TW-SE7.5-BOS	EPA 3010	246435	EPA 6020	246515
40144482010	ICO6-TW-NE5-TOS	EPA 3010	246435	EPA 6020	246515
40144482011	ICO6-TW-NE5-BOS	EPA 3010	246435	EPA 6020	246515
40144482012	ICO6-TW-NE7.5-TOS	EPA 3010	246435	EPA 6020	246515
40144482013	ICO6-TW-NE7.5-BOS	EPA 3010	246435	EPA 6020	246515
40144482014	ICO7-TW-NE10-TOS	EPA 3010	246435	EPA 6020	246515
40144482015	ICO7-TW-NE10-BOS	EPA 3010	246435	EPA 6020	246515
40144482016	ICO7-TW-SE10-TOS	EPA 3010	246435	EPA 6020	246515
40144482017	ICO7-TW-SE10 DUP	EPA 3010	246435	EPA 6020	246515
40144482018	ICO7-TW-SE10-BOS	EPA 3010	246435	EPA 6020	246515
40144482001	CS-3-MW-302	EPA 8260	246343		
40144482002	CS-3-PZ-302	EPA 8260	246343		
40144482003	CS-3-MW-317	EPA 8260	246343		
40144482004	CS-3-MW-317 DUP	EPA 8260	246343		
40144482005	CS-3-PZ-317	EPA 8260	246343		
40144482006	ICO1-TW-SE5-TOS	EPA 8260	246343		
40144482007	ICO1-TW-SE5-BOS	EPA 8260	246343		
40144482008	ICO1-TW-SE7.5-TOS	EPA 8260	246343		
40144482009	ICO1-TW-SE7.5-BOS	EPA 8260	246343		
40144482010	ICO6-TW-NE5-TOS	EPA 8260	246343		
40144482011	ICO6-TW-NE5-BOS	EPA 8260	246343		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412-1 KEP

Pace Project No.: 40144482

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40144482012	ICO6-TW-NE7.5-TOS	EPA 8260	246343		
40144482013	ICO6-TW-NE7.5-BOS	EPA 8260	246343		
40144482014	ICO7-TW-NE10-TOS	EPA 8260	246343		
40144482015	ICO7-TW-NE10-BOS	EPA 8260	246343		
40144482016	ICO7-TW-SE10-TOS	EPA 8260	246343		
40144482017	ICO7-TW-SE10 DUP	EPA 8260	246343		
40144482018	ICO7-TW-SE10-BOS	EPA 8260	246343		
40144482019	TRIP BLANK	EPA 8260	246343		
40144482001	CS-3-MW-302	EPA 300.0	246345		
40144482002	CS-3-PZ-302	EPA 300.0	246345		
40144482003	CS-3-MW-317	EPA 300.0	246345		
40144482004	CS-3-MW-317 DUP	EPA 300.0	246345		
40144482005	CS-3-PZ-317	EPA 300.0	246345		
40144482006	ICO1-TW-SE5-TOS	EPA 300.0	246345		
40144482007	ICO1-TW-SE5-BOS	EPA 300.0	246345		
40144482008	ICO1-TW-SE7.5-TOS	EPA 300.0	246345		
40144482009	ICO1-TW-SE7.5-BOS	EPA 300.0	246345		
40144482010	ICO6-TW-NE5-TOS	EPA 300.0	246345		
40144482011	ICO6-TW-NE5-BOS	EPA 300.0	246345		
40144482012	ICO6-TW-NE7.5-TOS	EPA 300.0	246345		
40144482013	ICO6-TW-NE7.5-BOS	EPA 300.0	246345		
40144482014	ICO7-TW-NE10-TOS	EPA 300.0	246345		
40144482015	ICO7-TW-NE10-BOS	EPA 300.0	246345		
40144482016	ICO7-TW-SE10-TOS	EPA 300.0	246345		
40144482017	ICO7-TW-SE10 DUP	EPA 300.0	246345		
40144482018	ICO7-TW-SE10-BOS	EPA 300.0	246345		
40144482001	CS-3-MW-302	SM 5310C	246359		
40144482002	CS-3-PZ-302	SM 5310C	246359		
40144482003	CS-3-MW-317	SM 5310C	246359		
40144482004	CS-3-MW-317 DUP	SM 5310C	246359		
40144482005	CS-3-PZ-317	SM 5310C	246359		
40144482006	ICO1-TW-SE5-TOS	SM 5310C	246359		
40144482007	ICO1-TW-SE5-BOS	SM 5310C	246359		
40144482008	ICO1-TW-SE7.5-TOS	SM 5310C	246359		
40144482009	ICO1-TW-SE7.5-BOS	SM 5310C	246359		
40144482010	ICO6-TW-NE5-TOS	SM 5310C	246359		
40144482011	ICO6-TW-NE5-BOS	SM 5310C	246359		
40144482012	ICO6-TW-NE7.5-TOS	SM 5310C	246359		
40144482013	ICO6-TW-NE7.5-BOS	SM 5310C	246359		
40144482014	ICO7-TW-NE10-TOS	SM 5310C	246359		
40144482015	ICO7-TW-NE10-BOS	SM 5310C	246359		
40144482016	ICO7-TW-SE10-TOS	SM 5310C	246359		
40144482017	ICO7-TW-SE10 DUP	SM 5310C	246359		
40144482018	ICO7-TW-SE10-BOS	SM 5310C	246359		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

40144482
Page: 2 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AECOM - Milw		Report To: Lanette Altenbach		Attention: Accounts Payable/Finance Department	
Address: 1555 N. River Center Dr., Suite 214		Copy To: Paul Lindquist		Company Name: City of Kenosha	
Milwaukee, WI 53212				Address: 652 52nd St., Kenosha, WI 53140	
Email To: Lanette.Altenschach@aecom.com		Purchase Order No.:		Pace Quote Reference:	
Phone: 414-577-1363 Fax:		Project Name: KEP		Pace Project Manager: Chris Hyska	
Requested Due Date/TAT: Standard		Project Number: 60518412-1		Pace Profile #: (2430) Kenosha work	

REGULATORY AGENCY	
<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
SITE LOCATION	<input type="checkbox"/> GA <input type="checkbox"/> IL <input type="checkbox"/> IN <input type="checkbox"/> MI <input type="checkbox"/> NC <input type="checkbox"/> OH <input type="checkbox"/> SC <input checked="" type="checkbox"/> WI <input type="checkbox"/> OTHER

ITEM #	Section D Required Client Information SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE	SAMPLE TYPE G-GRAB C-COMP	COLLECTED				SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives							Filtered (Y/N)	Requested Analysis: <i>URGENT TOC CHLORIDE NITRATE DISS METALS BIA METALS</i>	Pace Project Number Lab I.D.										
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol				Other									
					DATE	TIME	DATE	TIME																						
					Request Analysis: <i>URGENT TOC CHLORIDE NITRATE DISS METALS BIA METALS</i>																									
1	1C06-TW-NE7.5 BOS	WT			1/12	1117			7	1	1	23																		
2	1C07-TW-NE0 TOS	WT			1/12	0952			7	1	1	23																		
3	1C07-TW-NE10 BOS	WT			1/12	1047			7	1	1	23																		
4	1C07-TW-SE10 TOS	WT			1/12	1233			7	1	1	23																		
5	1C07-TW-SE10 DUP	WT			1/12	1230			7	1	1	23																		
6	1C07-TW-SE10 BOS	WT			1/12	1337			7	1	1	23																		
7	TRIP BLANK	WT			1/12	1600			1			1																		
8		WT																												
9		WT																												
10		WT																												
11		WT																												
12		WT																												

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
<i>Paul Lindquist AECOM</i>	1/13	10:40	<i>Morgan Fanning</i>	1/13/17	10:40	Y/N	Y/N	Y/N
<i>Morgan Fanning</i>	1/13/17	1210	<i>Paul Lindquist</i>	1/13/17	1210	Y/N	Y/N	Y/N
<i>Paul Lindquist</i>	1/13/17	1525	<i>Paul Lindquist</i>	1/13/17	1525	ROI	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	<i>PAUL LINDQUIST</i>				
SIGNATURE of SAMPLER:	<i>Paul Lindquist</i>	DATE Signed (MM/DD/YY)	1/12/2017		

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project # **WO#: 40144482**

Client Name: Aecom



Courier: Fed Ex UPS Client Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other _____

Thermometer Used NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: _____ /Corr: RO1 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:

Date: 1/13/17

Initials: [Signature]

Temp should be above freezing to 6°C for all sample except Biota.

Frozen Biota Samples should be received ≤ 0°C.

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. 004 unpreserved bottle label does not have DUP behind ID, 014 1 vial no date kd 1/13/17
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct 015 both pH 7 added acid pH ≤ 2 all other samples pH ≤ 2 kd 1/13/17
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤ 2; NaOH + ZnAct ≥ 9, NaOH ≥ 12)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: (VOA) coliform, (TOC) TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed: <u>[Signature]</u> Lab Std #/ID of preservative: <u>148716</u> Date/Time: <u>1/13/17</u> <u>1205</u>
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>372</u>		

Client Notification/ Resolution:

If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 1-16-17

March 24, 2017

Lanette Altenbach
AECOM, Inc.- Milwaukee
1555 N River Center Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60518412.1 KEP
Pace Project No.: 40147005

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on March 21, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Paul Lindquist, AECOM



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 60518412.1 KEP

Pace Project No.: 40147005

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40147005001	IC06-TW-NE7.5 TOS	Water	03/16/17 11:42	03/21/17 09:45
40147005002	IC06-TW-NE5 BOS	Water	03/16/17 12:05	03/21/17 09:45
40147005003	IC06-TW-NE7.5 BOS	Water	03/16/17 12:34	03/21/17 09:45
40147005004	IC06-TW-NE5 TOS	Water	03/16/17 12:54	03/21/17 09:45
40147005005	CS-3-PZ-317	Water	03/16/17 13:59	03/21/17 09:45
40147005006	CS-3-MW-317	Water	03/16/17 14:00	03/21/17 09:45
40147005007	IC01-TW-SE5 BOS	Water	03/16/17 14:58	03/21/17 09:45
40147005008	IC01-TW-SE7.5 TOS	Water	03/16/17 15:04	03/21/17 09:45
40147005009	IC01-TW-SE5 TOS	Water	03/16/17 15:38	03/21/17 09:45
40147005010	IC01-TW-SE7.5 BOS	Water	03/16/17 15:46	03/21/17 09:45
40147005011	CS-3-MW-302	Water	03/17/17 08:57	03/21/17 09:45
40147005012	CS-3-PZ-302	Water	03/17/17 09:05	03/21/17 09:45
40147005013	IC07-TW-NE10 BOS	Water	03/17/17 09:51	03/21/17 09:45
40147005014	IC07-TW-NE10 TOS	Water	03/17/17 10:35	03/21/17 09:45
40147005015	IC07-TW-SE10 BOS	Water	03/17/17 10:20	03/21/17 09:45
40147005016	IC07-TW-SE10 TOS	Water	03/17/17 10:50	03/21/17 09:45
40147005017	IC07-TW-SE10 TOS DUP	Water	03/17/17 10:30	03/21/17 09:45
40147005018	TRIP BLANK	Water	03/17/17 12:00	03/21/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 60518412.1 KEP

Pace Project No.: 40147005

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40147005001	IC06-TW-NE7.5 TOS	EPA 8260	HNW	63	PASI-G
40147005002	IC06-TW-NE5 BOS	EPA 8260	HNW	63	PASI-G
40147005003	IC06-TW-NE7.5 BOS	EPA 8260	HNW	63	PASI-G
40147005004	IC06-TW-NE5 TOS	EPA 8260	HNW	63	PASI-G
40147005005	CS-3-PZ-317	EPA 8260	HNW	63	PASI-G
40147005006	CS-3-MW-317	EPA 8260	HNW	63	PASI-G
40147005007	IC01-TW-SE5 BOS	EPA 8260	HNW	63	PASI-G
40147005008	IC01-TW-SE7.5 TOS	EPA 8260	HNW	63	PASI-G
40147005009	IC01-TW-SE5 TOS	EPA 8260	HNW	63	PASI-G
40147005010	IC01-TW-SE7.5 BOS	EPA 8260	HNW	63	PASI-G
40147005011	CS-3-MW-302	EPA 8260	HNW	63	PASI-G
40147005012	CS-3-PZ-302	EPA 8260	HNW	63	PASI-G
40147005013	IC07-TW-NE10 BOS	EPA 8260	HNW	63	PASI-G
40147005014	IC07-TW-NE10 TOS	EPA 8260	HNW	63	PASI-G
40147005015	IC07-TW-SE10 BOS	EPA 8260	HNW	63	PASI-G
40147005016	IC07-TW-SE10 TOS	EPA 8260	HNW	63	PASI-G
40147005017	IC07-TW-SE10 TOS DUP	EPA 8260	HNW	63	PASI-G
40147005018	TRIP BLANK	EPA 8260	HNW	63	PASI-G

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 60518412.1 KEP
Pace Project No.: 40147005

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40147005001	IC06-TW-NE7.5 TOS					
EPA 8260	1,1-Dichloroethane	0.51J	ug/L	1.0	03/23/17 10:27	
EPA 8260	cis-1,2-Dichloroethene	189	ug/L	1.0	03/23/17 10:27	
EPA 8260	trans-1,2-Dichloroethene	17.5	ug/L	1.0	03/23/17 10:27	
EPA 8260	Trichloroethene	126	ug/L	1.0	03/23/17 10:27	
EPA 8260	Vinyl chloride	54.8	ug/L	1.0	03/23/17 10:27	
40147005002	IC06-TW-NE5 BOS					
EPA 8260	cis-1,2-Dichloroethene	360	ug/L	5.0	03/24/17 04:01	
EPA 8260	trans-1,2-Dichloroethene	27.7	ug/L	5.0	03/24/17 04:01	
EPA 8260	Trichloroethene	84.6	ug/L	5.0	03/24/17 04:01	
EPA 8260	Vinyl chloride	69.2	ug/L	5.0	03/24/17 04:01	
40147005003	IC06-TW-NE7.5 BOS					
EPA 8260	cis-1,2-Dichloroethene	160	ug/L	4.0	03/24/17 04:24	
EPA 8260	trans-1,2-Dichloroethene	14.3	ug/L	4.0	03/24/17 04:24	
EPA 8260	Trichloroethene	287	ug/L	4.0	03/24/17 04:24	
EPA 8260	Vinyl chloride	23.3	ug/L	4.0	03/24/17 04:24	
40147005004	IC06-TW-NE5 TOS					
EPA 8260	cis-1,2-Dichloroethene	347	ug/L	5.0	03/24/17 08:43	
EPA 8260	trans-1,2-Dichloroethene	27.5	ug/L	5.0	03/24/17 08:43	
EPA 8260	Trichloroethene	90.3	ug/L	5.0	03/24/17 08:43	
EPA 8260	Vinyl chloride	68.3	ug/L	5.0	03/24/17 08:43	
40147005005	CS-3-PZ-317					
EPA 8260	cis-1,2-Dichloroethene	0.31J	ug/L	1.0	03/23/17 15:48	
40147005006	CS-3-MW-317					
EPA 8260	cis-1,2-Dichloroethene	708	ug/L	4.0	03/23/17 11:59	
EPA 8260	trans-1,2-Dichloroethene	44.7	ug/L	4.0	03/23/17 11:59	
EPA 8260	Vinyl chloride	291	ug/L	4.0	03/23/17 11:59	
40147005007	IC01-TW-SE5 BOS					
EPA 8260	cis-1,2-Dichloroethene	759	ug/L	4.0	03/23/17 12:22	
EPA 8260	trans-1,2-Dichloroethene	127	ug/L	4.0	03/23/17 12:22	
EPA 8260	Vinyl chloride	157	ug/L	4.0	03/23/17 12:22	
40147005008	IC01-TW-SE7.5 TOS					
EPA 8260	cis-1,2-Dichloroethene	653	ug/L	4.0	03/23/17 12:44	
EPA 8260	trans-1,2-Dichloroethene	101	ug/L	4.0	03/23/17 12:44	
EPA 8260	Vinyl chloride	176	ug/L	4.0	03/23/17 12:44	
40147005009	IC01-TW-SE5 TOS					
EPA 8260	cis-1,2-Dichloroethene	736	ug/L	4.0	03/23/17 13:07	
EPA 8260	trans-1,2-Dichloroethene	113	ug/L	4.0	03/23/17 13:07	
EPA 8260	Vinyl chloride	165	ug/L	4.0	03/23/17 13:07	
40147005010	IC01-TW-SE7.5 BOS					
EPA 8260	cis-1,2-Dichloroethene	762	ug/L	4.0	03/23/17 13:30	
EPA 8260	trans-1,2-Dichloroethene	120	ug/L	4.0	03/23/17 13:30	
EPA 8260	Vinyl chloride	180	ug/L	4.0	03/23/17 13:30	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 60518412.1 KEP
Pace Project No.: 40147005

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40147005011	CS-3-MW-302					
EPA 8260	cis-1,2-Dichloroethene	548	ug/L	10.0	03/23/17 13:53	
EPA 8260	trans-1,2-Dichloroethene	64.4	ug/L	10.0	03/23/17 13:53	
EPA 8260	Trichloroethene	130	ug/L	10.0	03/23/17 13:53	
EPA 8260	Vinyl chloride	19.1	ug/L	10.0	03/23/17 13:53	
40147005012	CS-3-PZ-302					
EPA 8260	cis-1,2-Dichloroethene	8500	ug/L	125	03/23/17 14:16	
EPA 8260	trans-1,2-Dichloroethene	199	ug/L	125	03/23/17 14:16	
EPA 8260	Trichloroethene	5110	ug/L	125	03/23/17 14:16	
40147005013	IC07-TW-NE10 BOS					
EPA 8260	1,1,1-Trichloroethane	0.84J	ug/L	1.0	03/24/17 07:57	
40147005014	IC07-TW-NE10 TOS					
EPA 8260	cis-1,2-Dichloroethene	37.2	ug/L	1.0	03/24/17 08:20	
EPA 8260	1,1,1-Trichloroethane	0.60J	ug/L	1.0	03/24/17 08:20	
EPA 8260	Trichloroethene	177	ug/L	1.0	03/24/17 08:20	
40147005015	IC07-TW-SE10 BOS					
EPA 8260	cis-1,2-Dichloroethene	2370	ug/L	100	03/23/17 15:25	
EPA 8260	trans-1,2-Dichloroethene	162	ug/L	100	03/23/17 15:25	
EPA 8260	Trichloroethene	20000	ug/L	100	03/23/17 15:25	
EPA 8260	Vinyl chloride	46.9J	ug/L	100	03/23/17 15:25	
40147005016	IC07-TW-SE10 TOS					
EPA 8260	cis-1,2-Dichloroethene	1560	ug/L	50.0	03/23/17 10:07	
EPA 8260	trans-1,2-Dichloroethene	145	ug/L	50.0	03/23/17 10:07	
EPA 8260	Trichloroethene	9470	ug/L	50.0	03/23/17 10:07	
EPA 8260	Vinyl chloride	56.1	ug/L	50.0	03/23/17 10:07	
40147005017	IC07-TW-SE10 TOS DUP					
EPA 8260	cis-1,2-Dichloroethene	1470	ug/L	40.0	03/23/17 10:29	
EPA 8260	trans-1,2-Dichloroethene	141	ug/L	40.0	03/23/17 10:29	
EPA 8260	Trichloroethene	8960	ug/L	40.0	03/23/17 10:29	
EPA 8260	Vinyl chloride	51.7	ug/L	40.0	03/23/17 10:29	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE7.5 TOS **Lab ID: 40147005001** Collected: 03/16/17 11:42 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/23/17 10:27	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/23/17 10:27	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/23/17 10:27	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/23/17 10:27	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/23/17 10:27	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/23/17 10:27	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/23/17 10:27	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/23/17 10:27	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/23/17 10:27	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/23/17 10:27	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/23/17 10:27	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/23/17 10:27	75-71-8	
1,1-Dichloroethane	0.51J	ug/L	1.0	0.24	1		03/23/17 10:27	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/23/17 10:27	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/23/17 10:27	75-35-4	
cis-1,2-Dichloroethene	189	ug/L	1.0	0.26	1		03/23/17 10:27	156-59-2	
trans-1,2-Dichloroethene	17.5	ug/L	1.0	0.26	1		03/23/17 10:27	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/23/17 10:27	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/23/17 10:27	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/23/17 10:27	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/23/17 10:27	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/23/17 10:27	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/23/17 10:27	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/23/17 10:27	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/23/17 10:27	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/23/17 10:27	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/23/17 10:27	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE7.5 TOS **Lab ID: 40147005001** Collected: 03/16/17 11:42 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/23/17 10:27	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/23/17 10:27	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/23/17 10:27	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/23/17 10:27	79-00-5	
Trichloroethene	126	ug/L	1.0	0.33	1		03/23/17 10:27	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/23/17 10:27	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 10:27	108-67-8	
Vinyl chloride	54.8	ug/L	1.0	0.18	1		03/23/17 10:27	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/23/17 10:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		03/23/17 10:27	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		1		03/23/17 10:27	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		03/23/17 10:27	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE5 BOS **Lab ID:** 40147005002 Collected: 03/16/17 12:05 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		03/24/17 04:01	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		03/24/17 04:01	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		03/24/17 04:01	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		03/24/17 04:01	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		03/24/17 04:01	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		03/24/17 04:01	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		03/24/17 04:01	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		03/24/17 04:01	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		03/24/17 04:01	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		03/24/17 04:01	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		03/24/17 04:01	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		03/24/17 04:01	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		03/24/17 04:01	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		03/24/17 04:01	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		03/24/17 04:01	75-35-4	
cis-1,2-Dichloroethene	360	ug/L	5.0	1.3	5		03/24/17 04:01	156-59-2	
trans-1,2-Dichloroethene	27.7	ug/L	5.0	1.3	5		03/24/17 04:01	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		03/24/17 04:01	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		03/24/17 04:01	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		03/24/17 04:01	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		03/24/17 04:01	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	108-20-3	
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		03/24/17 04:01	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		03/24/17 04:01	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	99-87-6	
Methylene Chloride	<1.2	ug/L	5.0	1.2	5		03/24/17 04:01	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		03/24/17 04:01	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		03/24/17 04:01	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		03/24/17 04:01	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: IC06-TW-NE5 BOS **Lab ID: 40147005002** Collected: 03/16/17 12:05 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		03/24/17 04:01	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		03/24/17 04:01	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		03/24/17 04:01	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		03/24/17 04:01	79-00-5	
Trichloroethene	84.6	ug/L	5.0	1.7	5		03/24/17 04:01	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		03/24/17 04:01	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 04:01	108-67-8	
Vinyl chloride	69.2	ug/L	5.0	0.88	5		03/24/17 04:01	75-01-4	
Xylene (Total)	<7.5	ug/L	15.0	7.5	5		03/24/17 04:01	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		5		03/24/17 04:01	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		5		03/24/17 04:01	1868-53-7	
Toluene-d8 (S)	96	%	70-130		5		03/24/17 04:01	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: IC06-TW-NE7.5 BOS Lab ID: 40147005003 Collected: 03/16/17 12:34 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/24/17 04:24	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/24/17 04:24	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/24/17 04:24	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/24/17 04:24	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/24/17 04:24	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/24/17 04:24	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/24/17 04:24	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/24/17 04:24	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/24/17 04:24	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/24/17 04:24	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/24/17 04:24	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/24/17 04:24	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/24/17 04:24	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/24/17 04:24	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/24/17 04:24	75-35-4	
cis-1,2-Dichloroethene	160	ug/L	4.0	1.0	4		03/24/17 04:24	156-59-2	
trans-1,2-Dichloroethene	14.3	ug/L	4.0	1.0	4		03/24/17 04:24	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/24/17 04:24	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/24/17 04:24	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/24/17 04:24	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/24/17 04:24	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/24/17 04:24	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/24/17 04:24	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/24/17 04:24	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/24/17 04:24	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/24/17 04:24	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/24/17 04:24	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE7.5 BOS **Lab ID: 40147005003** Collected: 03/16/17 12:34 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/24/17 04:24	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/24/17 04:24	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/24/17 04:24	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/24/17 04:24	79-00-5	
Trichloroethene	287	ug/L	4.0	1.3	4		03/24/17 04:24	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/24/17 04:24	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/24/17 04:24	108-67-8	
Vinyl chloride	23.3	ug/L	4.0	0.70	4		03/24/17 04:24	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/24/17 04:24	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		4		03/24/17 04:24	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		4		03/24/17 04:24	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		03/24/17 04:24	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE5 TOS **Lab ID:** 40147005004 Collected: 03/16/17 12:54 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	71-43-2	
Bromobenzene	<1.2	ug/L	5.0	1.2	5		03/24/17 08:43	108-86-1	
Bromochloromethane	<1.7	ug/L	5.0	1.7	5		03/24/17 08:43	74-97-5	
Bromodichloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	75-27-4	
Bromoform	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	75-25-2	
Bromomethane	<12.2	ug/L	25.0	12.2	5		03/24/17 08:43	74-83-9	
n-Butylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	104-51-8	
sec-Butylbenzene	<10.9	ug/L	25.0	10.9	5		03/24/17 08:43	135-98-8	
tert-Butylbenzene	<0.90	ug/L	5.0	0.90	5		03/24/17 08:43	98-06-6	
Carbon tetrachloride	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	56-23-5	
Chlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	108-90-7	
Chloroethane	<1.9	ug/L	5.0	1.9	5		03/24/17 08:43	75-00-3	
Chloroform	<12.5	ug/L	25.0	12.5	5		03/24/17 08:43	67-66-3	
Chloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	74-87-3	
2-Chlorotoluene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	95-49-8	
4-Chlorotoluene	<1.1	ug/L	5.0	1.1	5		03/24/17 08:43	106-43-4	
1,2-Dibromo-3-chloropropane	<10.8	ug/L	25.0	10.8	5		03/24/17 08:43	96-12-8	
Dibromochloromethane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.89	ug/L	5.0	0.89	5		03/24/17 08:43	106-93-4	
Dibromomethane	<2.1	ug/L	5.0	2.1	5		03/24/17 08:43	74-95-3	
1,2-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	95-50-1	
1,3-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	541-73-1	
1,4-Dichlorobenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	106-46-7	
Dichlorodifluoromethane	<1.1	ug/L	5.0	1.1	5		03/24/17 08:43	75-71-8	
1,1-Dichloroethane	<1.2	ug/L	5.0	1.2	5		03/24/17 08:43	75-34-3	
1,2-Dichloroethane	<0.84	ug/L	5.0	0.84	5		03/24/17 08:43	107-06-2	
1,1-Dichloroethene	<2.1	ug/L	5.0	2.1	5		03/24/17 08:43	75-35-4	
cis-1,2-Dichloroethene	347	ug/L	5.0	1.3	5		03/24/17 08:43	156-59-2	
trans-1,2-Dichloroethene	27.5	ug/L	5.0	1.3	5		03/24/17 08:43	156-60-5	
1,2-Dichloropropane	<1.2	ug/L	5.0	1.2	5		03/24/17 08:43	78-87-5	
1,3-Dichloropropane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	142-28-9	
2,2-Dichloropropane	<2.4	ug/L	5.0	2.4	5		03/24/17 08:43	594-20-7	
1,1-Dichloropropene	<2.2	ug/L	5.0	2.2	5		03/24/17 08:43	563-58-6	
cis-1,3-Dichloropropene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	10061-01-5	
trans-1,3-Dichloropropene	<1.1	ug/L	5.0	1.1	5		03/24/17 08:43	10061-02-6	
Diisopropyl ether	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	108-20-3	
Ethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	100-41-4	
Hexachloro-1,3-butadiene	<10.5	ug/L	25.0	10.5	5		03/24/17 08:43	87-68-3	
Isopropylbenzene (Cumene)	<0.72	ug/L	5.0	0.72	5		03/24/17 08:43	98-82-8	
p-Isopropyltoluene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	99-87-6	
Methylene Chloride	<1.2	ug/L	5.0	1.2	5		03/24/17 08:43	75-09-2	
Methyl-tert-butyl ether	<0.87	ug/L	5.0	0.87	5		03/24/17 08:43	1634-04-4	
Naphthalene	<12.5	ug/L	25.0	12.5	5		03/24/17 08:43	91-20-3	
n-Propylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	103-65-1	
Styrene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.90	ug/L	5.0	0.90	5		03/24/17 08:43	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC06-TW-NE5 TOS **Lab ID: 40147005004** Collected: 03/16/17 12:54 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.2	ug/L	5.0	1.2	5		03/24/17 08:43	79-34-5	
Tetrachloroethene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	127-18-4	
Toluene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	108-88-3	
1,2,3-Trichlorobenzene	<10.7	ug/L	25.0	10.7	5		03/24/17 08:43	87-61-6	
1,2,4-Trichlorobenzene	<11.0	ug/L	25.0	11.0	5		03/24/17 08:43	120-82-1	
1,1,1-Trichloroethane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	71-55-6	
1,1,2-Trichloroethane	<0.99	ug/L	5.0	0.99	5		03/24/17 08:43	79-00-5	
Trichloroethene	90.3	ug/L	5.0	1.7	5		03/24/17 08:43	79-01-6	
Trichlorofluoromethane	<0.92	ug/L	5.0	0.92	5		03/24/17 08:43	75-69-4	
1,2,3-Trichloropropane	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	96-18-4	
1,2,4-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	95-63-6	
1,3,5-Trimethylbenzene	<2.5	ug/L	5.0	2.5	5		03/24/17 08:43	108-67-8	
Vinyl chloride	68.3	ug/L	5.0	0.88	5		03/24/17 08:43	75-01-4	
Xylene (Total)	<7.5	ug/L	15.0	7.5	5		03/24/17 08:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		5		03/24/17 08:43	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		5		03/24/17 08:43	1868-53-7	
Toluene-d8 (S)	96	%	70-130		5		03/24/17 08:43	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-PZ-317 Lab ID: 40147005005 Collected: 03/16/17 13:59 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/23/17 15:48	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/23/17 15:48	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/23/17 15:48	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/23/17 15:48	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/23/17 15:48	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/23/17 15:48	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/23/17 15:48	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/23/17 15:48	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/23/17 15:48	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/23/17 15:48	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/23/17 15:48	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/23/17 15:48	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/23/17 15:48	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/23/17 15:48	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/23/17 15:48	75-35-4	
cis-1,2-Dichloroethene	0.31J	ug/L	1.0	0.26	1		03/23/17 15:48	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/23/17 15:48	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/23/17 15:48	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/23/17 15:48	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/23/17 15:48	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/23/17 15:48	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/23/17 15:48	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/23/17 15:48	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/23/17 15:48	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/23/17 15:48	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/23/17 15:48	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/23/17 15:48	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-PZ-317 **Lab ID: 40147005005** Collected: 03/16/17 13:59 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/23/17 15:48	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/23/17 15:48	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/23/17 15:48	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/23/17 15:48	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		03/23/17 15:48	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/23/17 15:48	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/23/17 15:48	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/23/17 15:48	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/23/17 15:48	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		03/23/17 15:48	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/23/17 15:48	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		03/23/17 15:48	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-MW-317 **Lab ID:** 40147005006 Collected: 03/16/17 14:00 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/23/17 11:59	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/23/17 11:59	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/23/17 11:59	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/23/17 11:59	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/23/17 11:59	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/23/17 11:59	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/23/17 11:59	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/23/17 11:59	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/23/17 11:59	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/23/17 11:59	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/23/17 11:59	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/23/17 11:59	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/23/17 11:59	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/23/17 11:59	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/23/17 11:59	75-35-4	
cis-1,2-Dichloroethene	708	ug/L	4.0	1.0	4		03/23/17 11:59	156-59-2	
trans-1,2-Dichloroethene	44.7	ug/L	4.0	1.0	4		03/23/17 11:59	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/23/17 11:59	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/23/17 11:59	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/23/17 11:59	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/23/17 11:59	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/23/17 11:59	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/23/17 11:59	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/23/17 11:59	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/23/17 11:59	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/23/17 11:59	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/23/17 11:59	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: CS-3-MW-317 **Lab ID: 40147005006** Collected: 03/16/17 14:00 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/23/17 11:59	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/23/17 11:59	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/23/17 11:59	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/23/17 11:59	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		03/23/17 11:59	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/23/17 11:59	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 11:59	108-67-8	
Vinyl chloride	291	ug/L	4.0	0.70	4		03/23/17 11:59	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/23/17 11:59	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		4		03/23/17 11:59	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		4		03/23/17 11:59	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		03/23/17 11:59	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE5 BOS **Lab ID:** 40147005007 Collected: 03/16/17 14:58 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/23/17 12:22	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/23/17 12:22	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/23/17 12:22	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/23/17 12:22	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/23/17 12:22	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/23/17 12:22	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/23/17 12:22	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/23/17 12:22	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/23/17 12:22	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/23/17 12:22	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/23/17 12:22	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/23/17 12:22	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/23/17 12:22	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/23/17 12:22	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/23/17 12:22	75-35-4	
cis-1,2-Dichloroethene	759	ug/L	4.0	1.0	4		03/23/17 12:22	156-59-2	
trans-1,2-Dichloroethene	127	ug/L	4.0	1.0	4		03/23/17 12:22	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/23/17 12:22	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/23/17 12:22	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/23/17 12:22	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/23/17 12:22	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/23/17 12:22	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/23/17 12:22	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/23/17 12:22	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/23/17 12:22	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/23/17 12:22	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/23/17 12:22	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE5 BOS **Lab ID: 40147005007** Collected: 03/16/17 14:58 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/23/17 12:22	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/23/17 12:22	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/23/17 12:22	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/23/17 12:22	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		03/23/17 12:22	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/23/17 12:22	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:22	108-67-8	
Vinyl chloride	157	ug/L	4.0	0.70	4		03/23/17 12:22	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/23/17 12:22	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		4		03/23/17 12:22	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		4		03/23/17 12:22	1868-53-7	
Toluene-d8 (S)	96	%	70-130		4		03/23/17 12:22	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE7.5 TOS Lab ID: 40147005008 Collected: 03/16/17 15:04 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/23/17 12:44	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/23/17 12:44	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/23/17 12:44	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/23/17 12:44	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/23/17 12:44	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/23/17 12:44	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/23/17 12:44	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/23/17 12:44	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/23/17 12:44	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/23/17 12:44	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/23/17 12:44	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/23/17 12:44	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/23/17 12:44	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/23/17 12:44	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/23/17 12:44	75-35-4	
cis-1,2-Dichloroethene	653	ug/L	4.0	1.0	4		03/23/17 12:44	156-59-2	
trans-1,2-Dichloroethene	101	ug/L	4.0	1.0	4		03/23/17 12:44	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/23/17 12:44	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/23/17 12:44	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/23/17 12:44	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/23/17 12:44	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/23/17 12:44	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/23/17 12:44	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/23/17 12:44	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/23/17 12:44	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/23/17 12:44	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/23/17 12:44	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE7.5 TOS **Lab ID: 40147005008** Collected: 03/16/17 15:04 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/23/17 12:44	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/23/17 12:44	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/23/17 12:44	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/23/17 12:44	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		03/23/17 12:44	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/23/17 12:44	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 12:44	108-67-8	
Vinyl chloride	176	ug/L	4.0	0.70	4		03/23/17 12:44	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/23/17 12:44	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		4		03/23/17 12:44	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		4		03/23/17 12:44	1868-53-7	
Toluene-d8 (S)	97	%	70-130		4		03/23/17 12:44	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: IC01-TW-SE5 TOS Lab ID: 40147005009 Collected: 03/16/17 15:38 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/23/17 13:07	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/23/17 13:07	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/23/17 13:07	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/23/17 13:07	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/23/17 13:07	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/23/17 13:07	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/23/17 13:07	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/23/17 13:07	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/23/17 13:07	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/23/17 13:07	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/23/17 13:07	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/23/17 13:07	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/23/17 13:07	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/23/17 13:07	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/23/17 13:07	75-35-4	
cis-1,2-Dichloroethene	736	ug/L	4.0	1.0	4		03/23/17 13:07	156-59-2	
trans-1,2-Dichloroethene	113	ug/L	4.0	1.0	4		03/23/17 13:07	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/23/17 13:07	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/23/17 13:07	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/23/17 13:07	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/23/17 13:07	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/23/17 13:07	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/23/17 13:07	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/23/17 13:07	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/23/17 13:07	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/23/17 13:07	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/23/17 13:07	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE5 TOS **Lab ID: 40147005009** Collected: 03/16/17 15:38 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/23/17 13:07	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/23/17 13:07	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/23/17 13:07	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/23/17 13:07	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		03/23/17 13:07	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/23/17 13:07	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:07	108-67-8	
Vinyl chloride	165	ug/L	4.0	0.70	4		03/23/17 13:07	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/23/17 13:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		4		03/23/17 13:07	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		4		03/23/17 13:07	1868-53-7	
Toluene-d8 (S)	96	%	70-130		4		03/23/17 13:07	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: IC01-TW-SE7.5 BOS **Lab ID: 40147005010** Collected: 03/16/17 15:46 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		03/23/17 13:30	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		03/23/17 13:30	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		03/23/17 13:30	74-83-9	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	104-51-8	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		03/23/17 13:30	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		03/23/17 13:30	98-06-6	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	56-23-5	
Chlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		03/23/17 13:30	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		03/23/17 13:30	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	74-87-3	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		03/23/17 13:30	106-43-4	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		03/23/17 13:30	96-12-8	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	124-48-1	
1,2-Dibromoethane (EDB)	<0.71	ug/L	4.0	0.71	4		03/23/17 13:30	106-93-4	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		03/23/17 13:30	74-95-3	
1,2-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	95-50-1	
1,3-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	541-73-1	
1,4-Dichlorobenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	106-46-7	
Dichlorodifluoromethane	<0.90	ug/L	4.0	0.90	4		03/23/17 13:30	75-71-8	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		03/23/17 13:30	75-34-3	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		03/23/17 13:30	107-06-2	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		03/23/17 13:30	75-35-4	
cis-1,2-Dichloroethene	762	ug/L	4.0	1.0	4		03/23/17 13:30	156-59-2	
trans-1,2-Dichloroethene	120	ug/L	4.0	1.0	4		03/23/17 13:30	156-60-5	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		03/23/17 13:30	78-87-5	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	142-28-9	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		03/23/17 13:30	594-20-7	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		03/23/17 13:30	563-58-6	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	10061-01-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		03/23/17 13:30	10061-02-6	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		03/23/17 13:30	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		03/23/17 13:30	98-82-8	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	99-87-6	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		03/23/17 13:30	75-09-2	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		03/23/17 13:30	1634-04-4	
Naphthalene	<10.0	ug/L	20.0	10.0	4		03/23/17 13:30	91-20-3	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	103-65-1	
Styrene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	100-42-5	
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		03/23/17 13:30	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC01-TW-SE7.5 BOS **Lab ID: 40147005010** Collected: 03/16/17 15:46 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		03/23/17 13:30	79-34-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	127-18-4	
Toluene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	108-88-3	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		03/23/17 13:30	87-61-6	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		03/23/17 13:30	120-82-1	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	71-55-6	
1,1,2-Trichloroethane	<0.79	ug/L	4.0	0.79	4		03/23/17 13:30	79-00-5	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		03/23/17 13:30	79-01-6	
Trichlorofluoromethane	<0.74	ug/L	4.0	0.74	4		03/23/17 13:30	75-69-4	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	96-18-4	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	95-63-6	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		03/23/17 13:30	108-67-8	
Vinyl chloride	180	ug/L	4.0	0.70	4		03/23/17 13:30	75-01-4	
Xylene (Total)	<6.0	ug/L	12.0	6.0	4		03/23/17 13:30	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		4		03/23/17 13:30	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		4		03/23/17 13:30	1868-53-7	
Toluene-d8 (S)	96	%	70-130		4		03/23/17 13:30	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-MW-302 **Lab ID:** 40147005011 Collected: 03/17/17 08:57 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		03/23/17 13:53	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		03/23/17 13:53	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		03/23/17 13:53	74-83-9	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	104-51-8	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		03/23/17 13:53	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		03/23/17 13:53	98-06-6	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	56-23-5	
Chlorobenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		03/23/17 13:53	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		03/23/17 13:53	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	74-87-3	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		03/23/17 13:53	106-43-4	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		03/23/17 13:53	96-12-8	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	124-48-1	
1,2-Dibromoethane (EDB)	<1.8	ug/L	10.0	1.8	10		03/23/17 13:53	106-93-4	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		03/23/17 13:53	74-95-3	
1,2-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	95-50-1	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	541-73-1	
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	106-46-7	
Dichlorodifluoromethane	<2.2	ug/L	10.0	2.2	10		03/23/17 13:53	75-71-8	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		03/23/17 13:53	75-34-3	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		03/23/17 13:53	107-06-2	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		03/23/17 13:53	75-35-4	
cis-1,2-Dichloroethene	548	ug/L	10.0	2.6	10		03/23/17 13:53	156-59-2	
trans-1,2-Dichloroethene	64.4	ug/L	10.0	2.6	10		03/23/17 13:53	156-60-5	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		03/23/17 13:53	78-87-5	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	142-28-9	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		03/23/17 13:53	594-20-7	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		03/23/17 13:53	563-58-6	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	10061-01-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		03/23/17 13:53	10061-02-6	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	108-20-3	
Ethylbenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		03/23/17 13:53	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		03/23/17 13:53	98-82-8	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	99-87-6	
Methylene Chloride	<2.3	ug/L	10.0	2.3	10		03/23/17 13:53	75-09-2	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		03/23/17 13:53	1634-04-4	
Naphthalene	<25.0	ug/L	50.0	25.0	10		03/23/17 13:53	91-20-3	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	103-65-1	
Styrene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	100-42-5	
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		03/23/17 13:53	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP
Pace Project No.: 40147005

Sample: CS-3-MW-302 **Lab ID: 40147005011** Collected: 03/17/17 08:57 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		03/23/17 13:53	79-34-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	127-18-4	
Toluene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	108-88-3	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		03/23/17 13:53	87-61-6	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		03/23/17 13:53	120-82-1	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	71-55-6	
1,1,2-Trichloroethane	<2.0	ug/L	10.0	2.0	10		03/23/17 13:53	79-00-5	
Trichloroethene	130	ug/L	10.0	3.3	10		03/23/17 13:53	79-01-6	
Trichlorofluoromethane	<1.8	ug/L	10.0	1.8	10		03/23/17 13:53	75-69-4	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	96-18-4	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	95-63-6	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		03/23/17 13:53	108-67-8	
Vinyl chloride	19.1	ug/L	10.0	1.8	10		03/23/17 13:53	75-01-4	
Xylene (Total)	<15.0	ug/L	30.0	15.0	10		03/23/17 13:53	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		10		03/23/17 13:53	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		10		03/23/17 13:53	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		03/23/17 13:53	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-PZ-302 **Lab ID:** 40147005012 Collected: 03/17/17 09:05 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	71-43-2	
Bromobenzene	<28.8	ug/L	125	28.8	125		03/23/17 14:16	108-86-1	
Bromochloromethane	<42.5	ug/L	125	42.5	125		03/23/17 14:16	74-97-5	
Bromodichloromethane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	75-27-4	
Bromoform	<62.5	ug/L	125	62.5	125		03/23/17 14:16	75-25-2	
Bromomethane	<304	ug/L	625	304	125		03/23/17 14:16	74-83-9	
n-Butylbenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	104-51-8	
sec-Butylbenzene	<273	ug/L	625	273	125		03/23/17 14:16	135-98-8	
tert-Butylbenzene	<22.5	ug/L	125	22.5	125		03/23/17 14:16	98-06-6	
Carbon tetrachloride	<62.5	ug/L	125	62.5	125		03/23/17 14:16	56-23-5	
Chlorobenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	108-90-7	
Chloroethane	<46.8	ug/L	125	46.8	125		03/23/17 14:16	75-00-3	
Chloroform	<312	ug/L	625	312	125		03/23/17 14:16	67-66-3	
Chloromethane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	74-87-3	
2-Chlorotoluene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	95-49-8	
4-Chlorotoluene	<26.7	ug/L	125	26.7	125		03/23/17 14:16	106-43-4	
1,2-Dibromo-3-chloropropane	<271	ug/L	625	271	125		03/23/17 14:16	96-12-8	
Dibromochloromethane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	124-48-1	
1,2-Dibromoethane (EDB)	<22.2	ug/L	125	22.2	125		03/23/17 14:16	106-93-4	
Dibromomethane	<53.3	ug/L	125	53.3	125		03/23/17 14:16	74-95-3	
1,2-Dichlorobenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	95-50-1	
1,3-Dichlorobenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	541-73-1	
1,4-Dichlorobenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	106-46-7	
Dichlorodifluoromethane	<28.0	ug/L	125	28.0	125		03/23/17 14:16	75-71-8	
1,1-Dichloroethane	<30.2	ug/L	125	30.2	125		03/23/17 14:16	75-34-3	
1,2-Dichloroethane	<21.0	ug/L	125	21.0	125		03/23/17 14:16	107-06-2	
1,1-Dichloroethene	<51.3	ug/L	125	51.3	125		03/23/17 14:16	75-35-4	
cis-1,2-Dichloroethene	8500	ug/L	125	32.0	125		03/23/17 14:16	156-59-2	
trans-1,2-Dichloroethene	199	ug/L	125	32.1	125		03/23/17 14:16	156-60-5	
1,2-Dichloropropane	<29.1	ug/L	125	29.1	125		03/23/17 14:16	78-87-5	
1,3-Dichloropropane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	142-28-9	
2,2-Dichloropropane	<60.5	ug/L	125	60.5	125		03/23/17 14:16	594-20-7	
1,1-Dichloropropene	<55.1	ug/L	125	55.1	125		03/23/17 14:16	563-58-6	
cis-1,3-Dichloropropene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	10061-01-5	
trans-1,3-Dichloropropene	<28.7	ug/L	125	28.7	125		03/23/17 14:16	10061-02-6	
Diisopropyl ether	<62.5	ug/L	125	62.5	125		03/23/17 14:16	108-20-3	
Ethylbenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	100-41-4	
Hexachloro-1,3-butadiene	<263	ug/L	625	263	125		03/23/17 14:16	87-68-3	
Isopropylbenzene (Cumene)	<17.9	ug/L	125	17.9	125		03/23/17 14:16	98-82-8	
p-Isopropyltoluene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	99-87-6	
Methylene Chloride	<29.1	ug/L	125	29.1	125		03/23/17 14:16	75-09-2	
Methyl-tert-butyl ether	<21.8	ug/L	125	21.8	125		03/23/17 14:16	1634-04-4	
Naphthalene	<312	ug/L	625	312	125		03/23/17 14:16	91-20-3	
n-Propylbenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	103-65-1	
Styrene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	100-42-5	
1,1,1,2-Tetrachloroethane	<22.6	ug/L	125	22.6	125		03/23/17 14:16	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: CS-3-PZ-302 **Lab ID: 40147005012** Collected: 03/17/17 09:05 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<31.2	ug/L	125	31.2	125		03/23/17 14:16	79-34-5	
Tetrachloroethene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	127-18-4	
Toluene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	108-88-3	
1,2,3-Trichlorobenzene	<267	ug/L	625	267	125		03/23/17 14:16	87-61-6	
1,2,4-Trichlorobenzene	<276	ug/L	625	276	125		03/23/17 14:16	120-82-1	
1,1,1-Trichloroethane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	71-55-6	
1,1,2-Trichloroethane	<24.7	ug/L	125	24.7	125		03/23/17 14:16	79-00-5	
Trichloroethene	5110	ug/L	125	41.3	125		03/23/17 14:16	79-01-6	
Trichlorofluoromethane	<23.1	ug/L	125	23.1	125		03/23/17 14:16	75-69-4	
1,2,3-Trichloropropane	<62.5	ug/L	125	62.5	125		03/23/17 14:16	96-18-4	
1,2,4-Trimethylbenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	95-63-6	
1,3,5-Trimethylbenzene	<62.5	ug/L	125	62.5	125		03/23/17 14:16	108-67-8	
Vinyl chloride	<21.9	ug/L	125	21.9	125		03/23/17 14:16	75-01-4	
Xylene (Total)	<188	ug/L	375	188	125		03/23/17 14:16	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		125		03/23/17 14:16	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		125		03/23/17 14:16	1868-53-7	
Toluene-d8 (S)	96	%	70-130		125		03/23/17 14:16	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-NE10 BOS **Lab ID: 40147005013** Collected: 03/17/17 09:51 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/24/17 07:57	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/24/17 07:57	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/24/17 07:57	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 07:57	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/24/17 07:57	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/24/17 07:57	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/24/17 07:57	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/24/17 07:57	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/24/17 07:57	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/24/17 07:57	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/24/17 07:57	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/24/17 07:57	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/24/17 07:57	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/24/17 07:57	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/24/17 07:57	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/24/17 07:57	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/24/17 07:57	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/24/17 07:57	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/24/17 07:57	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/24/17 07:57	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/24/17 07:57	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/24/17 07:57	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/24/17 07:57	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/24/17 07:57	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/24/17 07:57	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/24/17 07:57	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/24/17 07:57	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-NE10 BOS **Lab ID: 40147005013** Collected: 03/17/17 09:51 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/24/17 07:57	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/24/17 07:57	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 07:57	120-82-1	
1,1,1-Trichloroethane	0.84J	ug/L	1.0	0.50	1		03/24/17 07:57	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/24/17 07:57	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		03/24/17 07:57	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/24/17 07:57	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 07:57	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/24/17 07:57	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/24/17 07:57	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		03/24/17 07:57	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		03/24/17 07:57	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		03/24/17 07:57	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-NE10 TOS **Lab ID: 40147005014** Collected: 03/17/17 10:35 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/24/17 08:20	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/24/17 08:20	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/24/17 08:20	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 08:20	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/24/17 08:20	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/24/17 08:20	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/24/17 08:20	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/24/17 08:20	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/24/17 08:20	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/24/17 08:20	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/24/17 08:20	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/24/17 08:20	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/24/17 08:20	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/24/17 08:20	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/24/17 08:20	75-35-4	
cis-1,2-Dichloroethene	37.2	ug/L	1.0	0.26	1		03/24/17 08:20	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/24/17 08:20	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/24/17 08:20	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/24/17 08:20	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/24/17 08:20	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/24/17 08:20	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/24/17 08:20	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/24/17 08:20	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/24/17 08:20	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/24/17 08:20	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/24/17 08:20	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/24/17 08:20	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-NE10 TOS **Lab ID: 40147005014** Collected: 03/17/17 10:35 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/24/17 08:20	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/24/17 08:20	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 08:20	120-82-1	
1,1,1-Trichloroethane	0.60J	ug/L	1.0	0.50	1		03/24/17 08:20	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/24/17 08:20	79-00-5	
Trichloroethene	177	ug/L	1.0	0.33	1		03/24/17 08:20	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/24/17 08:20	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 08:20	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/24/17 08:20	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/24/17 08:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		03/24/17 08:20	460-00-4	
Dibromofluoromethane (S)	105	%	70-130		1		03/24/17 08:20	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		03/24/17 08:20	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: **IC07-TW-SE10 BOS** Lab ID: **40147005015** Collected: 03/17/17 10:20 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	71-43-2	
Bromobenzene	<23.0	ug/L	100	23.0	100		03/23/17 15:25	108-86-1	
Bromochloromethane	<34.0	ug/L	100	34.0	100		03/23/17 15:25	74-97-5	
Bromodichloromethane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	75-27-4	
Bromoform	<50.0	ug/L	100	50.0	100		03/23/17 15:25	75-25-2	
Bromomethane	<243	ug/L	500	243	100		03/23/17 15:25	74-83-9	
n-Butylbenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	104-51-8	
sec-Butylbenzene	<219	ug/L	500	219	100		03/23/17 15:25	135-98-8	
tert-Butylbenzene	<18.0	ug/L	100	18.0	100		03/23/17 15:25	98-06-6	
Carbon tetrachloride	<50.0	ug/L	100	50.0	100		03/23/17 15:25	56-23-5	
Chlorobenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	108-90-7	
Chloroethane	<37.5	ug/L	100	37.5	100		03/23/17 15:25	75-00-3	
Chloroform	<250	ug/L	500	250	100		03/23/17 15:25	67-66-3	
Chloromethane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	74-87-3	
2-Chlorotoluene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	95-49-8	
4-Chlorotoluene	<21.4	ug/L	100	21.4	100		03/23/17 15:25	106-43-4	
1,2-Dibromo-3-chloropropane	<216	ug/L	500	216	100		03/23/17 15:25	96-12-8	
Dibromochloromethane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	124-48-1	
1,2-Dibromoethane (EDB)	<17.8	ug/L	100	17.8	100		03/23/17 15:25	106-93-4	
Dibromomethane	<42.7	ug/L	100	42.7	100		03/23/17 15:25	74-95-3	
1,2-Dichlorobenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	95-50-1	
1,3-Dichlorobenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	541-73-1	
1,4-Dichlorobenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	106-46-7	
Dichlorodifluoromethane	<22.4	ug/L	100	22.4	100		03/23/17 15:25	75-71-8	
1,1-Dichloroethane	<24.2	ug/L	100	24.2	100		03/23/17 15:25	75-34-3	
1,2-Dichloroethane	<16.8	ug/L	100	16.8	100		03/23/17 15:25	107-06-2	
1,1-Dichloroethene	<41.0	ug/L	100	41.0	100		03/23/17 15:25	75-35-4	
cis-1,2-Dichloroethene	2370	ug/L	100	25.6	100		03/23/17 15:25	156-59-2	
trans-1,2-Dichloroethene	162	ug/L	100	25.7	100		03/23/17 15:25	156-60-5	
1,2-Dichloropropane	<23.3	ug/L	100	23.3	100		03/23/17 15:25	78-87-5	
1,3-Dichloropropane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	142-28-9	
2,2-Dichloropropane	<48.4	ug/L	100	48.4	100		03/23/17 15:25	594-20-7	
1,1-Dichloropropene	<44.1	ug/L	100	44.1	100		03/23/17 15:25	563-58-6	
cis-1,3-Dichloropropene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	10061-01-5	
trans-1,3-Dichloropropene	<23.0	ug/L	100	23.0	100		03/23/17 15:25	10061-02-6	
Diisopropyl ether	<50.0	ug/L	100	50.0	100		03/23/17 15:25	108-20-3	
Ethylbenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	100-41-4	
Hexachloro-1,3-butadiene	<211	ug/L	500	211	100		03/23/17 15:25	87-68-3	
Isopropylbenzene (Cumene)	<14.3	ug/L	100	14.3	100		03/23/17 15:25	98-82-8	
p-Isopropyltoluene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	99-87-6	
Methylene Chloride	<23.3	ug/L	100	23.3	100		03/23/17 15:25	75-09-2	
Methyl-tert-butyl ether	<17.4	ug/L	100	17.4	100		03/23/17 15:25	1634-04-4	
Naphthalene	<250	ug/L	500	250	100		03/23/17 15:25	91-20-3	
n-Propylbenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	103-65-1	
Styrene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	100-42-5	
1,1,1,2-Tetrachloroethane	<18.1	ug/L	100	18.1	100		03/23/17 15:25	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-SE10 BOS **Lab ID: 40147005015** Collected: 03/17/17 10:20 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<24.9	ug/L	100	24.9	100		03/23/17 15:25	79-34-5	
Tetrachloroethene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	127-18-4	
Toluene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	108-88-3	
1,2,3-Trichlorobenzene	<213	ug/L	500	213	100		03/23/17 15:25	87-61-6	
1,2,4-Trichlorobenzene	<221	ug/L	500	221	100		03/23/17 15:25	120-82-1	
1,1,1-Trichloroethane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	71-55-6	
1,1,2-Trichloroethane	<19.7	ug/L	100	19.7	100		03/23/17 15:25	79-00-5	
Trichloroethene	20000	ug/L	100	33.1	100		03/23/17 15:25	79-01-6	
Trichlorofluoromethane	<18.5	ug/L	100	18.5	100		03/23/17 15:25	75-69-4	
1,2,3-Trichloropropane	<50.0	ug/L	100	50.0	100		03/23/17 15:25	96-18-4	
1,2,4-Trimethylbenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	95-63-6	
1,3,5-Trimethylbenzene	<50.0	ug/L	100	50.0	100		03/23/17 15:25	108-67-8	
Vinyl chloride	46.9J	ug/L	100	17.6	100		03/23/17 15:25	75-01-4	
Xylene (Total)	<150	ug/L	300	150	100		03/23/17 15:25	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		100		03/23/17 15:25	460-00-4	
Dibromofluoromethane (S)	111	%	70-130		100		03/23/17 15:25	1868-53-7	
Toluene-d8 (S)	96	%	70-130		100		03/23/17 15:25	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-SE10 TOS **Lab ID: 40147005016** Collected: 03/17/17 10:50 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Benzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	71-43-2	
Bromobenzene	<11.5	ug/L	50.0	11.5	50		03/23/17 10:07	108-86-1	
Bromochloromethane	<17.0	ug/L	50.0	17.0	50		03/23/17 10:07	74-97-5	
Bromodichloromethane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	75-27-4	
Bromoform	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	75-25-2	
Bromomethane	<122	ug/L	250	122	50		03/23/17 10:07	74-83-9	
n-Butylbenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	104-51-8	
sec-Butylbenzene	<109	ug/L	250	109	50		03/23/17 10:07	135-98-8	
tert-Butylbenzene	<9.0	ug/L	50.0	9.0	50		03/23/17 10:07	98-06-6	
Carbon tetrachloride	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	56-23-5	
Chlorobenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	108-90-7	
Chloroethane	<18.7	ug/L	50.0	18.7	50		03/23/17 10:07	75-00-3	
Chloroform	<125	ug/L	250	125	50		03/23/17 10:07	67-66-3	
Chloromethane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	74-87-3	
2-Chlorotoluene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	95-49-8	
4-Chlorotoluene	<10.7	ug/L	50.0	10.7	50		03/23/17 10:07	106-43-4	
1,2-Dibromo-3-chloropropane	<108	ug/L	250	108	50		03/23/17 10:07	96-12-8	
Dibromochloromethane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	124-48-1	
1,2-Dibromoethane (EDB)	<8.9	ug/L	50.0	8.9	50		03/23/17 10:07	106-93-4	
Dibromomethane	<21.3	ug/L	50.0	21.3	50		03/23/17 10:07	74-95-3	
1,2-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	95-50-1	
1,3-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	541-73-1	
1,4-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	106-46-7	
Dichlorodifluoromethane	<11.2	ug/L	50.0	11.2	50		03/23/17 10:07	75-71-8	
1,1-Dichloroethane	<12.1	ug/L	50.0	12.1	50		03/23/17 10:07	75-34-3	
1,2-Dichloroethane	<8.4	ug/L	50.0	8.4	50		03/23/17 10:07	107-06-2	
1,1-Dichloroethene	<20.5	ug/L	50.0	20.5	50		03/23/17 10:07	75-35-4	
cis-1,2-Dichloroethene	1560	ug/L	50.0	12.8	50		03/23/17 10:07	156-59-2	
trans-1,2-Dichloroethene	145	ug/L	50.0	12.8	50		03/23/17 10:07	156-60-5	
1,2-Dichloropropane	<11.7	ug/L	50.0	11.7	50		03/23/17 10:07	78-87-5	
1,3-Dichloropropane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	142-28-9	
2,2-Dichloropropane	<24.2	ug/L	50.0	24.2	50		03/23/17 10:07	594-20-7	
1,1-Dichloropropene	<22.1	ug/L	50.0	22.1	50		03/23/17 10:07	563-58-6	
cis-1,3-Dichloropropene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	10061-01-5	
trans-1,3-Dichloropropene	<11.5	ug/L	50.0	11.5	50		03/23/17 10:07	10061-02-6	
Diisopropyl ether	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	108-20-3	
Ethylbenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	100-41-4	
Hexachloro-1,3-butadiene	<105	ug/L	250	105	50		03/23/17 10:07	87-68-3	
Isopropylbenzene (Cumene)	<7.2	ug/L	50.0	7.2	50		03/23/17 10:07	98-82-8	
p-Isopropyltoluene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	99-87-6	
Methylene Chloride	<11.6	ug/L	50.0	11.6	50		03/23/17 10:07	75-09-2	
Methyl-tert-butyl ether	<8.7	ug/L	50.0	8.7	50		03/23/17 10:07	1634-04-4	
Naphthalene	<125	ug/L	250	125	50		03/23/17 10:07	91-20-3	
n-Propylbenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	103-65-1	
Styrene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	100-42-5	
1,1,1,2-Tetrachloroethane	<9.0	ug/L	50.0	9.0	50		03/23/17 10:07	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-SE10 TOS **Lab ID: 40147005016** Collected: 03/17/17 10:50 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<12.5	ug/L	50.0	12.5	50		03/23/17 10:07	79-34-5	
Tetrachloroethene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	127-18-4	
Toluene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	108-88-3	
1,2,3-Trichlorobenzene	<107	ug/L	250	107	50		03/23/17 10:07	87-61-6	
1,2,4-Trichlorobenzene	<110	ug/L	250	110	50		03/23/17 10:07	120-82-1	
1,1,1-Trichloroethane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	71-55-6	
1,1,2-Trichloroethane	<9.9	ug/L	50.0	9.9	50		03/23/17 10:07	79-00-5	
Trichloroethene	9470	ug/L	50.0	16.5	50		03/23/17 10:07	79-01-6	
Trichlorofluoromethane	<9.2	ug/L	50.0	9.2	50		03/23/17 10:07	75-69-4	
1,2,3-Trichloropropane	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	96-18-4	
1,2,4-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	95-63-6	
1,3,5-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		03/23/17 10:07	108-67-8	
Vinyl chloride	56.1	ug/L	50.0	8.8	50		03/23/17 10:07	75-01-4	
Xylene (Total)	<75.0	ug/L	150	75.0	50		03/23/17 10:07	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	92	%	70-130		50		03/23/17 10:07	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		50		03/23/17 10:07	1868-53-7	
Toluene-d8 (S)	90	%	70-130		50		03/23/17 10:07	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: **IC07-TW-SE10 TOS DUP** Lab ID: **40147005017** Collected: 03/17/17 10:30 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	71-43-2	
Bromobenzene	<9.2	ug/L	40.0	9.2	40		03/23/17 10:29	108-86-1	
Bromochloromethane	<13.6	ug/L	40.0	13.6	40		03/23/17 10:29	74-97-5	
Bromodichloromethane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	75-27-4	
Bromoform	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	75-25-2	
Bromomethane	<97.4	ug/L	200	97.4	40		03/23/17 10:29	74-83-9	
n-Butylbenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	104-51-8	
sec-Butylbenzene	<87.4	ug/L	200	87.4	40		03/23/17 10:29	135-98-8	
tert-Butylbenzene	<7.2	ug/L	40.0	7.2	40		03/23/17 10:29	98-06-6	
Carbon tetrachloride	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	56-23-5	
Chlorobenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	108-90-7	
Chloroethane	<15.0	ug/L	40.0	15.0	40		03/23/17 10:29	75-00-3	
Chloroform	<100	ug/L	200	100	40		03/23/17 10:29	67-66-3	
Chloromethane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	74-87-3	
2-Chlorotoluene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	95-49-8	
4-Chlorotoluene	<8.5	ug/L	40.0	8.5	40		03/23/17 10:29	106-43-4	
1,2-Dibromo-3-chloropropane	<86.6	ug/L	200	86.6	40		03/23/17 10:29	96-12-8	
Dibromochloromethane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	124-48-1	
1,2-Dibromoethane (EDB)	<7.1	ug/L	40.0	7.1	40		03/23/17 10:29	106-93-4	
Dibromomethane	<17.1	ug/L	40.0	17.1	40		03/23/17 10:29	74-95-3	
1,2-Dichlorobenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	95-50-1	
1,3-Dichlorobenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	541-73-1	
1,4-Dichlorobenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	106-46-7	
Dichlorodifluoromethane	<9.0	ug/L	40.0	9.0	40		03/23/17 10:29	75-71-8	
1,1-Dichloroethane	<9.7	ug/L	40.0	9.7	40		03/23/17 10:29	75-34-3	
1,2-Dichloroethane	<6.7	ug/L	40.0	6.7	40		03/23/17 10:29	107-06-2	
1,1-Dichloroethene	<16.4	ug/L	40.0	16.4	40		03/23/17 10:29	75-35-4	
cis-1,2-Dichloroethene	1470	ug/L	40.0	10.2	40		03/23/17 10:29	156-59-2	
trans-1,2-Dichloroethene	141	ug/L	40.0	10.3	40		03/23/17 10:29	156-60-5	
1,2-Dichloropropane	<9.3	ug/L	40.0	9.3	40		03/23/17 10:29	78-87-5	
1,3-Dichloropropane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	142-28-9	
2,2-Dichloropropane	<19.4	ug/L	40.0	19.4	40		03/23/17 10:29	594-20-7	
1,1-Dichloropropene	<17.6	ug/L	40.0	17.6	40		03/23/17 10:29	563-58-6	
cis-1,3-Dichloropropene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	10061-01-5	
trans-1,3-Dichloropropene	<9.2	ug/L	40.0	9.2	40		03/23/17 10:29	10061-02-6	
Diisopropyl ether	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	108-20-3	
Ethylbenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	100-41-4	
Hexachloro-1,3-butadiene	<84.2	ug/L	200	84.2	40		03/23/17 10:29	87-68-3	
Isopropylbenzene (Cumene)	<5.7	ug/L	40.0	5.7	40		03/23/17 10:29	98-82-8	
p-Isopropyltoluene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	99-87-6	
Methylene Chloride	<9.3	ug/L	40.0	9.3	40		03/23/17 10:29	75-09-2	
Methyl-tert-butyl ether	<7.0	ug/L	40.0	7.0	40		03/23/17 10:29	1634-04-4	
Naphthalene	<100	ug/L	200	100	40		03/23/17 10:29	91-20-3	
n-Propylbenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	103-65-1	
Styrene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	100-42-5	
1,1,1,2-Tetrachloroethane	<7.2	ug/L	40.0	7.2	40		03/23/17 10:29	630-20-6	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: IC07-TW-SE10 TOS DUP **Lab ID: 40147005017** Collected: 03/17/17 10:30 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<10	ug/L	40.0	10	40		03/23/17 10:29	79-34-5	
Tetrachloroethene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	127-18-4	
Toluene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	108-88-3	
1,2,3-Trichlorobenzene	<85.3	ug/L	200	85.3	40		03/23/17 10:29	87-61-6	
1,2,4-Trichlorobenzene	<88.4	ug/L	200	88.4	40		03/23/17 10:29	120-82-1	
1,1,1-Trichloroethane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	71-55-6	
1,1,2-Trichloroethane	<7.9	ug/L	40.0	7.9	40		03/23/17 10:29	79-00-5	
Trichloroethene	8960	ug/L	40.0	13.2	40		03/23/17 10:29	79-01-6	
Trichlorofluoromethane	<7.4	ug/L	40.0	7.4	40		03/23/17 10:29	75-69-4	
1,2,3-Trichloropropane	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	96-18-4	
1,2,4-Trimethylbenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	95-63-6	
1,3,5-Trimethylbenzene	<20.0	ug/L	40.0	20.0	40		03/23/17 10:29	108-67-8	
Vinyl chloride	51.7	ug/L	40.0	7.0	40		03/23/17 10:29	75-01-4	
Xylene (Total)	<60.0	ug/L	120	60.0	40		03/23/17 10:29	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		40		03/23/17 10:29	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		40		03/23/17 10:29	1868-53-7	
Toluene-d8 (S)	90	%	70-130		40		03/23/17 10:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: TRIP BLANK **Lab ID: 40147005018** Collected: 03/17/17 12:00 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
Benzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		03/24/17 00:43	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		03/24/17 00:43	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		03/24/17 00:43	74-83-9	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	104-51-8	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 00:43	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		03/24/17 00:43	98-06-6	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		03/24/17 00:43	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		03/24/17 00:43	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	74-87-3	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		03/24/17 00:43	106-43-4	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		03/24/17 00:43	96-12-8	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	124-48-1	
1,2-Dibromoethane (EDB)	<0.18	ug/L	1.0	0.18	1		03/24/17 00:43	106-93-4	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		03/24/17 00:43	74-95-3	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	95-50-1	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	106-46-7	
Dichlorodifluoromethane	<0.22	ug/L	1.0	0.22	1		03/24/17 00:43	75-71-8	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		03/24/17 00:43	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		03/24/17 00:43	107-06-2	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		03/24/17 00:43	75-35-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/24/17 00:43	156-59-2	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		03/24/17 00:43	156-60-5	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		03/24/17 00:43	78-87-5	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	142-28-9	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		03/24/17 00:43	594-20-7	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		03/24/17 00:43	563-58-6	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	10061-01-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		03/24/17 00:43	10061-02-6	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		03/24/17 00:43	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		03/24/17 00:43	98-82-8	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	99-87-6	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		03/24/17 00:43	75-09-2	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		03/24/17 00:43	1634-04-4	
Naphthalene	<2.5	ug/L	5.0	2.5	1		03/24/17 00:43	91-20-3	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	103-65-1	
Styrene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	100-42-5	
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		03/24/17 00:43	630-20-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 60518412.1 KEP

Pace Project No.: 40147005

Sample: TRIP BLANK **Lab ID: 40147005018** Collected: 03/17/17 12:00 Received: 03/21/17 09:45 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		03/24/17 00:43	79-34-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	108-88-3	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		03/24/17 00:43	87-61-6	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		03/24/17 00:43	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	71-55-6	
1,1,2-Trichloroethane	<0.20	ug/L	1.0	0.20	1		03/24/17 00:43	79-00-5	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		03/24/17 00:43	79-01-6	
Trichlorofluoromethane	<0.18	ug/L	1.0	0.18	1		03/24/17 00:43	75-69-4	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	96-18-4	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	95-63-6	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		03/24/17 00:43	108-67-8	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		03/24/17 00:43	75-01-4	
Xylene (Total)	<1.5	ug/L	3.0	1.5	1		03/24/17 00:43	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		03/24/17 00:43	460-00-4	
Dibromofluoromethane (S)	116	%	70-130		1		03/24/17 00:43	1868-53-7	
Toluene-d8 (S)	90	%	70-130		1		03/24/17 00:43	2037-26-5	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40147005

QC Batch: 250770 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40147005016, 40147005017, 40147005018

METHOD BLANK: 1479945 Matrix: Water
Associated Lab Samples: 40147005016, 40147005017, 40147005018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	03/23/17 07:54	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	03/23/17 07:54	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	03/23/17 07:54	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	03/23/17 07:54	
1,1-Dichloroethane	ug/L	<0.24	1.0	03/23/17 07:54	
1,1-Dichloroethene	ug/L	<0.41	1.0	03/23/17 07:54	
1,1-Dichloropropene	ug/L	<0.44	1.0	03/23/17 07:54	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	03/23/17 07:54	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	03/23/17 07:54	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	03/23/17 07:54	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	03/23/17 07:54	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	03/23/17 07:54	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	03/23/17 07:54	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 07:54	
1,2-Dichloroethane	ug/L	<0.17	1.0	03/23/17 07:54	
1,2-Dichloropropane	ug/L	<0.23	1.0	03/23/17 07:54	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	03/23/17 07:54	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 07:54	
1,3-Dichloropropane	ug/L	<0.50	1.0	03/23/17 07:54	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 07:54	
2,2-Dichloropropane	ug/L	<0.48	1.0	03/23/17 07:54	
2-Chlorotoluene	ug/L	<0.50	1.0	03/23/17 07:54	
4-Chlorotoluene	ug/L	<0.21	1.0	03/23/17 07:54	
Benzene	ug/L	<0.50	1.0	03/23/17 07:54	
Bromobenzene	ug/L	<0.23	1.0	03/23/17 07:54	
Bromochloromethane	ug/L	<0.34	1.0	03/23/17 07:54	
Bromodichloromethane	ug/L	<0.50	1.0	03/23/17 07:54	
Bromoform	ug/L	<0.50	1.0	03/23/17 07:54	
Bromomethane	ug/L	<2.4	5.0	03/23/17 07:54	
Carbon tetrachloride	ug/L	<0.50	1.0	03/23/17 07:54	
Chlorobenzene	ug/L	<0.50	1.0	03/23/17 07:54	
Chloroethane	ug/L	<0.37	1.0	03/23/17 07:54	
Chloroform	ug/L	<2.5	5.0	03/23/17 07:54	
Chloromethane	ug/L	<0.50	1.0	03/23/17 07:54	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	03/23/17 07:54	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	03/23/17 07:54	
Dibromochloromethane	ug/L	<0.50	1.0	03/23/17 07:54	
Dibromomethane	ug/L	<0.43	1.0	03/23/17 07:54	
Dichlorodifluoromethane	ug/L	<0.22	1.0	03/23/17 07:54	
Diisopropyl ether	ug/L	<0.50	1.0	03/23/17 07:54	
Ethylbenzene	ug/L	<0.50	1.0	03/23/17 07:54	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40147005

METHOD BLANK: 1479945 Matrix: Water
Associated Lab Samples: 40147005016, 40147005017, 40147005018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	03/23/17 07:54	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	03/23/17 07:54	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	03/23/17 07:54	
Methylene Chloride	ug/L	<0.23	1.0	03/23/17 07:54	
n-Butylbenzene	ug/L	<0.50	1.0	03/23/17 07:54	
n-Propylbenzene	ug/L	<0.50	1.0	03/23/17 07:54	
Naphthalene	ug/L	<2.5	5.0	03/23/17 07:54	
p-Isopropyltoluene	ug/L	<0.50	1.0	03/23/17 07:54	
sec-Butylbenzene	ug/L	<2.2	5.0	03/23/17 07:54	
Styrene	ug/L	<0.50	1.0	03/23/17 07:54	
tert-Butylbenzene	ug/L	<0.18	1.0	03/23/17 07:54	
Tetrachloroethene	ug/L	<0.50	1.0	03/23/17 07:54	
Toluene	ug/L	<0.50	1.0	03/23/17 07:54	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	03/23/17 07:54	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	03/23/17 07:54	
Trichloroethene	ug/L	<0.33	1.0	03/23/17 07:54	
Trichlorofluoromethane	ug/L	<0.18	1.0	03/23/17 07:54	
Vinyl chloride	ug/L	<0.18	1.0	03/23/17 07:54	
Xylene (Total)	ug/L	<1.5	3.0	03/23/17 07:54	
4-Bromofluorobenzene (S)	%	95	70-130	03/23/17 07:54	
Dibromofluoromethane (S)	%	107	70-130	03/23/17 07:54	
Toluene-d8 (S)	%	89	70-130	03/23/17 07:54	

LABORATORY CONTROL SAMPLE: 1479946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	59.3	119	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	44.2	88	67-130	
1,1,2-Trichloroethane	ug/L	50	45.8	92	70-130	
1,1-Dichloroethane	ug/L	50	58.6	117	70-133	
1,1-Dichloroethene	ug/L	50	56.2	112	70-130	
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.1	84	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	48.5	97	70-130	
1,2-Dichlorobenzene	ug/L	50	46.4	93	70-130	
1,2-Dichloroethane	ug/L	50	56.3	113	70-130	
1,2-Dichloropropane	ug/L	50	51.2	102	70-130	
1,3-Dichlorobenzene	ug/L	50	45.5	91	70-130	
1,4-Dichlorobenzene	ug/L	50	45.9	92	70-130	
Benzene	ug/L	50	56.5	113	60-135	
Bromodichloromethane	ug/L	50	52.5	105	70-130	
Bromoform	ug/L	50	43.9	88	70-130	
Bromomethane	ug/L	50	39.9	80	33-130	
Carbon tetrachloride	ug/L	50	54.3	109	70-138	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40147005

LABORATORY CONTROL SAMPLE: 1479946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlorobenzene	ug/L	50	49.3	99	70-130	
Chloroethane	ug/L	50	46.8	94	51-130	
Chloroform	ug/L	50	54.6	109	70-130	
Chloromethane	ug/L	50	39.1	78	25-132	
cis-1,2-Dichloroethene	ug/L	50	55.7	111	69-130	
cis-1,3-Dichloropropene	ug/L	50	43.0	86	70-130	
Dibromochloromethane	ug/L	50	50.5	101	70-130	
Dichlorodifluoromethane	ug/L	50	31.9	64	23-130	
Ethylbenzene	ug/L	50	50.7	101	70-136	
Isopropylbenzene (Cumene)	ug/L	50	53.6	107	70-140	
Methyl-tert-butyl ether	ug/L	50	60.1	120	66-138	
Methylene Chloride	ug/L	50	54.1	108	70-130	
Styrene	ug/L	50	52.9	106	70-133	
Tetrachloroethene	ug/L	50	46.2	92	70-138	
Toluene	ug/L	50	49.0	98	70-130	
trans-1,2-Dichloroethene	ug/L	50	57.0	114	70-131	
trans-1,3-Dichloropropene	ug/L	50	39.8	80	69-130	
Trichloroethene	ug/L	50	53.5	107	70-130	
Trichlorofluoromethane	ug/L	50	56.3	113	50-150	
Vinyl chloride	ug/L	50	50.6	101	49-130	
Xylene (Total)	ug/L	150	158	106	70-135	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			109	70-130	
Toluene-d8 (S)	%			90	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1479949 1479950

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		40147028003	Spike Conc.	MSD Spike Conc.	MSD Result								
1,1,1-Trichloroethane	ug/L	<0.50	50	50	57.2	59.0	114	118	70-134	3	20		
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	42.4	43.2	85	86	67-130	2	20		
1,1,2-Trichloroethane	ug/L	<0.20	50	50	43.3	44.4	87	89	70-130	3	20		
1,1-Dichloroethane	ug/L	<0.24	50	50	56.5	57.9	113	116	70-134	2	20		
1,1-Dichloroethene	ug/L	<0.41	50	50	54.8	54.4	110	109	68-136	1	20		
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	41.8	44.0	84	88	62-139	5	20		
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	43.1	42.0	86	84	50-150	2	20		
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	46.7	48.2	93	96	70-130	3	20		
1,2-Dichlorobenzene	ug/L	<0.50	50	50	45.0	46.6	90	93	70-130	3	20		
1,2-Dichloroethane	ug/L	<0.17	50	50	54.2	55.7	108	111	70-130	3	20		
1,2-Dichloropropane	ug/L	<0.23	50	50	49.1	49.4	98	99	70-130	1	20		
1,3-Dichlorobenzene	ug/L	<0.50	50	50	45.3	46.1	91	92	70-131	2	20		
1,4-Dichlorobenzene	ug/L	<0.50	50	50	45.1	46.5	90	93	70-130	3	20		
Benzene	ug/L	<0.50	50	50	54.7	56.2	109	112	57-138	3	20		
Bromodichloromethane	ug/L	<0.50	50	50	50.2	51.1	100	102	70-130	2	20		

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40147005

Parameter	Units	40147028003		1479949		1479950		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Bromoform	ug/L	<0.50	50	50	42.0	43.4	84	87	70-130	3	20		
Bromomethane	ug/L	<2.4	50	50	40.0	42.7	80	85	33-130	7	27		
Carbon tetrachloride	ug/L	<0.50	50	50	52.5	53.2	105	106	70-138	1	20		
Chlorobenzene	ug/L	<0.50	50	50	47.7	48.9	95	98	70-130	3	20		
Chloroethane	ug/L	<0.37	50	50	44.2	44.6	88	89	51-130	1	20		
Chloroform	ug/L	<2.5	50	50	51.8	53.9	104	108	70-130	4	20		
Chloromethane	ug/L	<0.50	50	50	35.9	36.7	72	73	25-132	2	20		
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	53.8	55.0	108	110	61-140	2	20		
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	45.3	45.8	91	92	70-130	1	20		
Dibromochloromethane	ug/L	<0.50	50	50	48.1	50.0	96	100	70-130	4	20		
Dichlorodifluoromethane	ug/L	<0.22	50	50	26.9	27.3	54	55	23-130	2	20		
Ethylbenzene	ug/L	<0.50	50	50	49.1	50.2	98	100	70-138	2	20		
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	52.0	53.4	104	107	70-152	3	20		
Methyl-tert-butyl ether	ug/L	<0.17	50	50	58.9	60.6	118	121	66-139	3	20		
Methylene Chloride	ug/L	<0.23	50	50	53.5	53.1	107	106	70-130	1	20		
Styrene	ug/L	<0.50	50	50	51.4	52.8	103	106	70-138	3	20		
Tetrachloroethene	ug/L	<0.50	50	50	45.4	46.5	91	93	70-148	2	20		
Toluene	ug/L	<0.50	50	50	47.2	48.3	94	97	70-130	2	20		
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	55.6	57.3	111	115	70-133	3	20		
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	40.6	42.6	81	85	69-130	5	20		
Trichloroethene	ug/L	<0.33	50	50	51.8	52.5	104	105	70-131	1	20		
Trichlorofluoromethane	ug/L	<0.18	50	50	54.0	54.6	108	109	50-150	1	20		
Vinyl chloride	ug/L	<0.18	50	50	48.2	49.3	96	99	49-133	2	20		
Xylene (Total)	ug/L	<1.5	150	150	153	157	102	105	70-135	2	20		
4-Bromofluorobenzene (S)	%						101	103	70-130				
Dibromofluoromethane (S)	%						111	110	70-130				
Toluene-d8 (S)	%						90	90	70-130				

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40147005

QC Batch: 250786 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40147005001, 40147005002, 40147005003, 40147005004, 40147005005, 40147005006, 40147005007, 40147005008, 40147005009, 40147005010, 40147005011, 40147005012, 40147005013, 40147005014, 40147005015

METHOD BLANK: 1479984 Matrix: Water
Associated Lab Samples: 40147005001, 40147005002, 40147005003, 40147005004, 40147005005, 40147005006, 40147005007, 40147005008, 40147005009, 40147005010, 40147005011, 40147005012, 40147005013, 40147005014, 40147005015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	03/23/17 08:10	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	03/23/17 08:10	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	03/23/17 08:10	
1,1,2-Trichloroethane	ug/L	<0.20	1.0	03/23/17 08:10	
1,1-Dichloroethane	ug/L	<0.24	1.0	03/23/17 08:10	
1,1-Dichloroethene	ug/L	<0.41	1.0	03/23/17 08:10	
1,1-Dichloropropene	ug/L	<0.44	1.0	03/23/17 08:10	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	03/23/17 08:10	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	03/23/17 08:10	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	03/23/17 08:10	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	03/23/17 08:10	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	03/23/17 08:10	
1,2-Dibromoethane (EDB)	ug/L	<0.18	1.0	03/23/17 08:10	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 08:10	
1,2-Dichloroethane	ug/L	<0.17	1.0	03/23/17 08:10	
1,2-Dichloropropane	ug/L	<0.23	1.0	03/23/17 08:10	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	03/23/17 08:10	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 08:10	
1,3-Dichloropropane	ug/L	<0.50	1.0	03/23/17 08:10	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	03/23/17 08:10	
2,2-Dichloropropane	ug/L	<0.48	1.0	03/23/17 08:10	
2-Chlorotoluene	ug/L	<0.50	1.0	03/23/17 08:10	
4-Chlorotoluene	ug/L	<0.21	1.0	03/23/17 08:10	
Benzene	ug/L	<0.50	1.0	03/23/17 08:10	
Bromobenzene	ug/L	<0.23	1.0	03/23/17 08:10	
Bromochloromethane	ug/L	<0.34	1.0	03/23/17 08:10	
Bromodichloromethane	ug/L	<0.50	1.0	03/23/17 08:10	
Bromoform	ug/L	<0.50	1.0	03/23/17 08:10	
Bromomethane	ug/L	<2.4	5.0	03/23/17 08:10	
Carbon tetrachloride	ug/L	<0.50	1.0	03/23/17 08:10	
Chlorobenzene	ug/L	<0.50	1.0	03/23/17 08:10	
Chloroethane	ug/L	<0.37	1.0	03/23/17 08:10	
Chloroform	ug/L	<2.5	5.0	03/23/17 08:10	
Chloromethane	ug/L	<0.50	1.0	03/23/17 08:10	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	03/23/17 08:10	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	03/23/17 08:10	
Dibromochloromethane	ug/L	<0.50	1.0	03/23/17 08:10	
Dibromomethane	ug/L	<0.43	1.0	03/23/17 08:10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 60518412.1 KEP
Pace Project No.: 40147005

METHOD BLANK: 1479984

Matrix: Water

Associated Lab Samples: 40147005001, 40147005002, 40147005003, 40147005004, 40147005005, 40147005006, 40147005007, 40147005008, 40147005009, 40147005010, 40147005011, 40147005012, 40147005013, 40147005014, 40147005015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dichlorodifluoromethane	ug/L	<0.22	1.0	03/23/17 08:10	
Diisopropyl ether	ug/L	<0.50	1.0	03/23/17 08:10	
Ethylbenzene	ug/L	<0.50	1.0	03/23/17 08:10	
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	03/23/17 08:10	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	03/23/17 08:10	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	03/23/17 08:10	
Methylene Chloride	ug/L	<0.23	1.0	03/23/17 08:10	
n-Butylbenzene	ug/L	<0.50	1.0	03/23/17 08:10	
n-Propylbenzene	ug/L	<0.50	1.0	03/23/17 08:10	
Naphthalene	ug/L	<2.5	5.0	03/23/17 08:10	
p-Isopropyltoluene	ug/L	<0.50	1.0	03/23/17 08:10	
sec-Butylbenzene	ug/L	<2.2	5.0	03/23/17 08:10	
Styrene	ug/L	<0.50	1.0	03/23/17 08:10	
tert-Butylbenzene	ug/L	<0.18	1.0	03/23/17 08:10	
Tetrachloroethene	ug/L	<0.50	1.0	03/23/17 08:10	
Toluene	ug/L	<0.50	1.0	03/23/17 08:10	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	03/23/17 08:10	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	03/23/17 08:10	
Trichloroethene	ug/L	<0.33	1.0	03/23/17 08:10	
Trichlorofluoromethane	ug/L	<0.18	1.0	03/23/17 08:10	
Vinyl chloride	ug/L	<0.18	1.0	03/23/17 08:10	
Xylene (Total)	ug/L	<1.5	3.0	03/23/17 08:10	
4-Bromofluorobenzene (S)	%	102	70-130	03/23/17 08:10	
Dibromofluoromethane (S)	%	110	70-130	03/23/17 08:10	
Toluene-d8 (S)	%	97	70-130	03/23/17 08:10	

LABORATORY CONTROL SAMPLE: 1479985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	56.2	112	70-131	
1,1,2,2-Tetrachloroethane	ug/L	50	50.4	101	67-130	
1,1,2-Trichloroethane	ug/L	50	51.2	102	70-130	
1,1-Dichloroethane	ug/L	50	52.0	104	70-133	
1,1-Dichloroethene	ug/L	50	53.8	108	70-130	
1,2,4-Trichlorobenzene	ug/L	50	46.5	93	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	51.0	102	50-150	
1,2-Dibromoethane (EDB)	ug/L	50	52.0	104	70-130	
1,2-Dichlorobenzene	ug/L	50	48.2	96	70-130	
1,2-Dichloroethane	ug/L	50	55.0	110	70-130	
1,2-Dichloropropane	ug/L	50	51.4	103	70-130	
1,3-Dichlorobenzene	ug/L	50	47.8	96	70-130	
1,4-Dichlorobenzene	ug/L	50	48.2	96	70-130	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40147005

LABORATORY CONTROL SAMPLE: 1479985

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.4	105	60-135	
Bromodichloromethane	ug/L	50	53.4	107	70-130	
Bromoform	ug/L	50	49.1	98	70-130	
Bromomethane	ug/L	50	37.6	75	33-130	
Carbon tetrachloride	ug/L	50	58.1	116	70-138	
Chlorobenzene	ug/L	50	49.4	99	70-130	
Chloroethane	ug/L	50	43.3	87	51-130	
Chloroform	ug/L	50	53.1	106	70-130	
Chloromethane	ug/L	50	40.3	81	25-132	
cis-1,2-Dichloroethene	ug/L	50	54.2	108	69-130	
cis-1,3-Dichloropropene	ug/L	50	46.7	93	70-130	
Dibromochloromethane	ug/L	50	50.2	100	70-130	
Dichlorodifluoromethane	ug/L	50	35.6	71	23-130	
Ethylbenzene	ug/L	50	52.3	105	70-136	
Isopropylbenzene (Cumene)	ug/L	50	51.5	103	70-140	
Methyl-tert-butyl ether	ug/L	50	53.8	108	66-138	
Methylene Chloride	ug/L	50	50.9	102	70-130	
Styrene	ug/L	50	51.1	102	70-133	
Tetrachloroethene	ug/L	50	49.3	99	70-138	
Toluene	ug/L	50	51.4	103	70-130	
trans-1,2-Dichloroethene	ug/L	50	53.3	107	70-131	
trans-1,3-Dichloropropene	ug/L	50	44.2	88	69-130	
Trichloroethene	ug/L	50	54.5	109	70-130	
Trichlorofluoromethane	ug/L	50	59.5	119	50-150	
Vinyl chloride	ug/L	50	49.7	99	49-130	
Xylene (Total)	ug/L	150	153	102	70-135	
4-Bromofluorobenzene (S)	%			103	70-130	
Dibromofluoromethane (S)	%			111	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1480202 1480203

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40146904048 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<0.50	50	50	56.5	53.9	113	108	70-134	5	20	
1,1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	51.2	48.1	102	96	67-130	6	20	
1,1,2-Trichloroethane	ug/L	<0.20	50	50	51.7	49.8	103	100	70-130	4	20	
1,1-Dichloroethane	ug/L	0.85J	50	50	52.7	50.9	104	100	70-134	3	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	54.0	51.7	108	103	68-136	4	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	49.4	47.3	97	93	62-139	4	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	51.5	48.9	103	98	50-150	5	20	
1,2-Dibromoethane (EDB)	ug/L	<0.18	50	50	52.7	49.9	105	100	70-130	6	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	48.7	46.8	97	93	70-130	4	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	55.5	53.0	111	106	70-130	5	20	

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QUALITY CONTROL DATA

Project: 60518412.1 KEP

Pace Project No.: 40147005

Parameter	Units	1480202		1480203		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		40146904048 Result	MS Spike Conc.	MSD Spike Conc.	MSD Result							
1,2-Dichloropropane	ug/L	<0.23	50	50	51.5	49.6	103	99	70-130	4	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	49.3	47.2	98	94	70-131	4	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	49.0	47.0	98	94	70-130	4	20	
Benzene	ug/L	<0.50	50	50	52.6	50.3	105	100	57-138	4	20	
Bromodichloromethane	ug/L	<0.50	50	50	54.5	52.0	109	104	70-130	5	20	
Bromoform	ug/L	<0.50	50	50	50.2	47.3	100	95	70-130	6	20	
Bromomethane	ug/L	<2.4	50	50	40.6	40.0	81	80	33-130	1	27	
Carbon tetrachloride	ug/L	<0.50	50	50	59.1	50.3	118	101	70-138	16	20	
Chlorobenzene	ug/L	<0.50	50	50	49.7	47.9	99	96	70-130	4	20	
Chloroethane	ug/L	<0.37	50	50	41.9	40.5	84	81	51-130	3	20	
Chloroform	ug/L	<2.5	50	50	52.9	50.7	106	101	70-130	4	20	
Chloromethane	ug/L	<0.50	50	50	39.3	37.3	79	75	25-132	5	20	
cis-1,2-Dichloroethene	ug/L	0.65J	50	50	54.9	53.0	108	105	61-140	3	20	
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	51.2	49.2	102	98	70-130	4	20	
Dibromochloromethane	ug/L	<0.50	50	50	50.3	47.9	101	96	70-130	5	20	
Dichlorodifluoromethane	ug/L	<0.22	50	50	31.1	29.4	62	59	23-130	6	20	
Ethylbenzene	ug/L	<0.50	50	50	52.7	50.8	105	102	70-138	4	20	
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	52.3	50.3	104	100	70-152	4	20	
Methyl-tert-butyl ether	ug/L	<0.17	50	50	54.5	51.5	109	103	66-139	6	20	
Methylene Chloride	ug/L	<0.23	50	50	51.1	49.7	102	99	70-130	3	20	
Styrene	ug/L	<0.50	50	50	51.4	49.3	103	99	70-138	4	20	
Tetrachloroethene	ug/L	<0.50	50	50	50.8	49.0	102	98	70-148	4	20	
Toluene	ug/L	<0.50	50	50	51.4	49.5	103	99	70-130	4	20	
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	53.4	51.0	107	102	70-133	5	20	
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	48.1	46.3	96	93	69-130	4	20	
Trichloroethene	ug/L	<0.33	50	50	55.0	52.9	110	106	70-131	4	20	
Trichlorofluoromethane	ug/L	<0.18	50	50	59.8	56.9	120	114	50-150	5	20	
Vinyl chloride	ug/L	12.7	50	50	61.5	59.0	97	93	49-133	4	20	
Xylene (Total)	ug/L	<1.5	150	150	155	149	103	99	70-135	4	20	
4-Bromofluorobenzene (S)	%						103	103	70-130			
Dibromofluoromethane (S)	%						111	111	70-130			
Toluene-d8 (S)	%						96	96	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 60518412.1 KEP

Pace Project No.: 40147005

DEFINITIONS

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

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60518412.1 KEP

Pace Project No.: 40147005

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40147005001	IC06-TW-NE7.5 TOS	EPA 8260	250786		
40147005002	IC06-TW-NE5 BOS	EPA 8260	250786		
40147005003	IC06-TW-NE7.5 BOS	EPA 8260	250786		
40147005004	IC06-TW-NE5 TOS	EPA 8260	250786		
40147005005	CS-3-PZ-317	EPA 8260	250786		
40147005006	CS-3-MW-317	EPA 8260	250786		
40147005007	IC01-TW-SE5 BOS	EPA 8260	250786		
40147005008	IC01-TW-SE7.5 TOS	EPA 8260	250786		
40147005009	IC01-TW-SE5 TOS	EPA 8260	250786		
40147005010	IC01-TW-SE7.5 BOS	EPA 8260	250786		
40147005011	CS-3-MW-302	EPA 8260	250786		
40147005012	CS-3-PZ-302	EPA 8260	250786		
40147005013	IC07-TW-NE10 BOS	EPA 8260	250786		
40147005014	IC07-TW-NE10 TOS	EPA 8260	250786		
40147005015	IC07-TW-SE10 BOS	EPA 8260	250786		
40147005016	IC07-TW-SE10 TOS	EPA 8260	250770		
40147005017	IC07-TW-SE10 TOS DUP	EPA 8260	250770		
40147005018	TRIP BLANK	EPA 8260	250770		

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CHAIN-OF-CUSTODY / Analytical Request Document

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

40147005
Page 54 of 56

Page: 2 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AECOM - Milw		Report To: Lanette Altenbach		Attention: Accounts Payable/Finance Department	
Address: 1555 N. River Center Dr., Suite 214		Copy To: Paul Lindquist		Company Name: City of Kenosha	
Milwaukee, WI 53212				Address: 652 52nd St., Kenosha, WI 53140	
Email To: Lanette.Altенbach@aecom.com		Purchase Order No.:		Pace Quote Reference:	
Phone: 414-577-1363 Fax:		Project Name: KEP		Pace Project Manager: Chris Hyska	
Requested Due Date/TAT: Standard		Project Number: 60518412.1		Pace Profile #: (2430) Kenosha work	

REGULATORY AGENCY	
<input type="checkbox"/> NPDES	<input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____
SITE	
<input type="checkbox"/> GA	<input type="checkbox"/> IL <input type="checkbox"/> IN <input type="checkbox"/> MI <input type="checkbox"/> NC
LOCATION	
<input type="checkbox"/> OH	<input type="checkbox"/> SC <input checked="" type="checkbox"/> WI <input type="checkbox"/> OTHER _____

ITEM #	Section D Required Client Information SAMPLE ID One Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE	Valid Matrix Codes		COLLECTED				SAMPLE TEMP AT COLLECTION	#OF CONTAINERS	Preservatives								Filtered (Y/N)	Requested Analysis:	Pace Project Number Lab I.D.	
		MATRIX	CODE	COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other				
		DRINKING WATER	DW	DATE	TIME	DATE	TIME														
		WATER	WT																		
1	1C07-TW-NE10 BOS	WT	G			3/17	0951		3									X	VOCs	Residual Chlorine (Y/N)	3-40ml VB
2	1C07-TW-NE10 TOS	WT	G			3/17	1035		3									X			
3	1C07-TW-SE10 BOS	WT	G			3/17	1020		3									X			
4	1C07-TW-SE10 TOS	WT	G			3/17	1050		3									X			
5	1C07-TW-SE10 TOS DUP	WT	G			3/17	1030		3									X			
6	TRIP BLANK	WT	G			3/17	1200		2									X			
7		WT																			
8		WT																			
9		WT																			
10		WT																			
11		WT																			
12		WT																			

Additional Comments:	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Paul Lindquist AECOM	3/20	1045	Mary Fannin	3/20/17	1225		Y/N	Y/N	Y/N
	Mary Fannin	3/20/17	1310				Y/N	Y/N	Y/N	
	C. Krogstad	3/21/17	0945	Susan Wyle Pace	3/21/17	0945	DOT	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	PAYL LINDQUIST				
SIGNATURE of SAMPLER:	<i>Paul Lindquist</i>	DATE Signed (MM/DD/YY)	03/17/17		



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Condition Upon Receipt

Client Name: AECOM Project # 4047005

Additional Comments/Resolution: _____

001-	FD on sample - IC06-TW-SE 7.5 - TOS
002-	IC06 TW NW 5 BOS
003-	IC06 TW SE 7.5 BOS
004-	IC06 TW NW 5 TOS
013-	IC01 TW NE10 BOS
014-	IC01 TW NE10 TOS

001 thru 004, 013 + 014 - Collect date + time
match CDC' 3-21-17
JW

Project Manager Review:

Date: 3-21-17



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO#: 40147005

Client Name: AECOM

Courier: Fed Ex UPS Client Pace Other: CS Logistics
Tracking #:



Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used N/A Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: ROE /Corr: Biological Tissue is Frozen: yes

Temp Blank Present: yes no

Person examining contents:
Date: 3-21-17
Initials: SW

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Comments:

Table with 15 rows for checklist items: Chain of Custody Present, Chain of Custody Filled Out, Chain of Custody Relinquished, Sampler Name & Signature on COC, Samples Arrived within Hold Time, Short Hold Time Analysis (<72hr), Rush Turn Around Time Requested, Sufficient Volume, Correct Containers Used, Containers Intact, Filtered volume received for Dissolved tests, Sample Labels match COC, All containers needing preservation have been checked, All containers needing preservation are found to be in compliance with EPA recommendation, Headspace in VOA Vials (>6mm), Trip Blank Present, Pace Trip Blank Lot # (if purchased).

Client Notification/ Resolution: 3-21-17 SW If checked, see attached form for additional comments

Person Contacted: Paul Gundquist Date/Time: 3-21-17
Comments/ Resolution: Client returned 10-40ml vials and 7-125ml bag empty

Use sample IDs + match samples per COC per PL. 2/22/17 3-21-17 SW

Project Manager Review: [Signature] Date: 3-21-17

Appendix E

Injection Performance Monitoring Results (REDOX Tech, 2016)

REDOX TECH, LLC



"Providing Innovative In Situ Soil and Groundwater Treatment"

December 19, 2016

Via Email

Mr. Paul Lindquist

AECOM

1555 North RiverCenter Drive, Suite 214

Milwaukee, WI 53212

Email: paul.lindquist@aecom.com

RE: Summary letter for sodium permanganate injections at the former Kenosha Engine Plant located at 5555 30th Ave in Kenosha, WI.

Dear Mr. Lindquist;

The following letter provides a brief summary of the field events performed at the above referenced site in December of 2016.

Injection of sodium permanganate was conducted via direct push drilling techniques in a total of 8 locations onsite at the Former Engine Plant. Injections targeted depths from 8 to 20 ft bgs and were spaced approximately 20 ft apart. Injections were conducted at 1 foot intervals vertically across the target depths. Injection specifics, as well as a summary table and sketch can be found in **Attachment A**.

A total of 7,214 lbs of sodium permanganate (40 wt%) was mixed with potable water to form 9,327 gallons of solution. The original scope of work required 10,400 gallons to be injected; however, due to persistent surfacing in and around MW-302 the total volume of solution was reduced. ICO-1, ICO-2, ICO-6, and ICO-8 each received 1,300 gallons per location (100 gallons per interval), while ICO-3, ICO-4 and ICO-7 each received 1,000 gallons per location (~77 gallons per interval). ICO-5 began receiving 100 gallons per interval, however due to the previously mentioned daylighting in MW-302, the volume was reduced midway through completion of the location. These specifics can also be found in **Attachment A**.

All injection activities were completed by December 13, 2016. Upon completion, locations were sealed using granular bentonite, however per AECOM there was no patching of the surface pavement. All general trash was bagged and disposed of in a receptacle designated by AECOM. The ERD portion of the project will be completed at a later date.

If there are any questions regarding the work, please do not hesitate to email me at clarke@redox-tech.com, or via phone at (630) 705-0390.

Regards,

Kyle M. Clarke

ATTACHMENT A

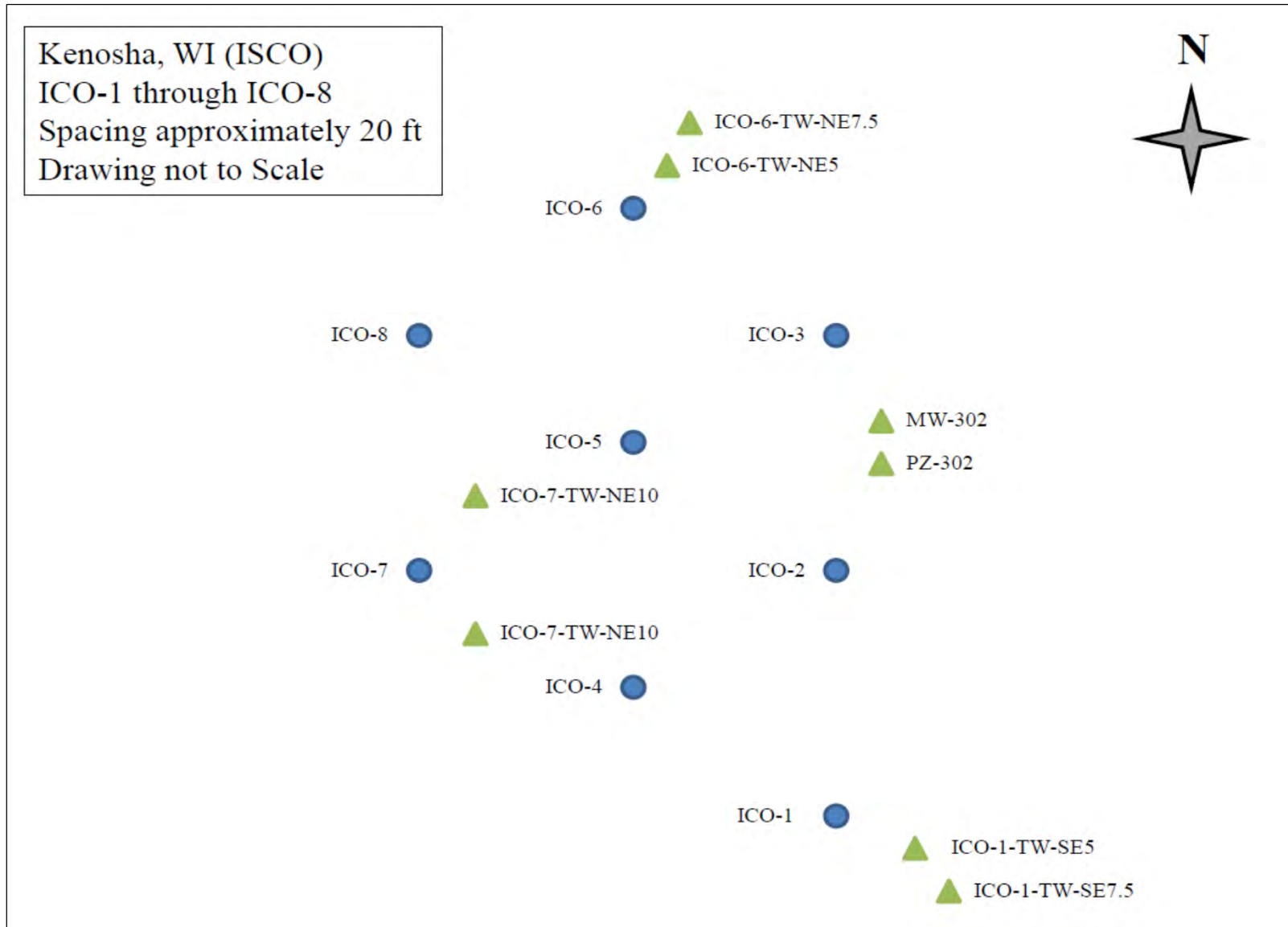
INJECTION LOGS
(INCLUDING SUMMARY
TABLE AND SKETCH)

Table 1: Injection Summary Table

Injection Point	Date	Total number of Intervals	Gallons Injected per Interval	Total Solution Injected (gal.)	Na-Perm (40 wt%) Injected (lbs)
IP-1	12/5/2016	13	100	1,300	902
IP-2	12/7/2016	13	100	1,300	902
IP-3	12/8/2016	13	77	1,000	902
IP-4	12/13/2016	13	77-100	1,127	902
IP-5	12/12/2016	13	77	1,000	902
IP-6	12/7/2016	13	100	1,300	902
IP-7	12/9/2016	13	77	1,000	902
IP-8	12/7/2016	13	100	1,300	902

Totals	9,327	7,214
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Figure 1: Injection Location Map (ISCO)



Appendix F

Perimeter Performance Monitoring Results

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
ICO1-SE5	12/6/16 7:45	7.63
ICO1-SE5	12/6/16 9:22	7.13
ICO1-SE5	12/6/16 10:56	7.52
ICO1-SE5	12/6/16 12:58	7.54
ICO1-SE5	12/6/16 15:38	7.24
ICO1-SE5	12/7/16 7:27	7.60
ICO1-SE5	12/7/16 10:44	7.34
ICO1-SE5	12/7/16 11:53	7.58
ICO1-SE5	12/7/16 14:11	7.56
ICO1-SE5	12/7/16 15:18	7.28
ICO1-SE5	12/8/16 7:10	7.63
ICO1-SE5	12/8/16 9:50	7.53
ICO1-SE5	12/8/16 13:52	7.34
ICO1-SE5	12/9/16 7:25	7.71
ICO1-SE5	12/9/16 14:52	7.44
ICO1-SE5	12/12/16 11:35	7.96
ICO1-SE5	12/12/16 16:18	7.76
ICO1-SE5	12/13/16 8:40	8.02
ICO1-SE5	12/13/16 14:10	8.01
ICO1-SE5	12/14/16 7:50	8.11
ICO1-SE5	12/21/16 9:10	8.69
ICO1-SE7.5	12/6/16 7:45	7.57
ICO1-SE7.5	12/6/16 9:22	7.09
ICO1-SE7.5	12/6/16 10:56	7.46
ICO1-SE7.5	12/6/16 12:58	7.47
ICO1-SE7.5	12/6/16 15:38	7.19
ICO1-SE7.5	12/7/16 7:27	7.54
ICO1-SE7.5	12/7/16 10:44	7.32
ICO1-SE7.5	12/7/16 11:53	7.51
ICO1-SE7.5	12/7/16 14:11	7.51
ICO1-SE7.5	12/7/16 15:18	7.24
ICO1-SE7.5	12/8/16 7:10	7.58
ICO1-SE7.5	12/8/16 9:50	7.46
ICO1-SE7.5	12/8/16 13:52	7.30
ICO1-SE7.5	12/9/16 7:25	7.65
ICO1-SE7.5	12/9/16 14:52	7.41
ICO1-SE7.5	12/12/16 11:35	7.90
ICO1-SE7.5	12/12/16 16:18	7.70
ICO1-SE7.5	12/13/16 8:40	7.96
ICO1-SE7.5	12/13/16 14:10	7.96
ICO1-SE7.5	12/14/16 7:50	8.05
ICO1-SE7.5	12/21/16 9:10	8.63

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
ICO6-NE5	12/6/16 7:45	7.63
ICO6-NE5	12/6/16 9:22	7.35
ICO6-NE5	12/6/16 10:56	7.56
ICO6-NE5	12/6/16 12:58	7.56
ICO6-NE5	12/6/16 15:38	--
ICO6-NE5	12/7/16 7:27	7.62
ICO6-NE5	12/7/16 10:44	7.50
ICO6-NE5	12/7/16 11:53	7.60
ICO6-NE5	12/7/16 14:11	7.59
ICO6-NE5	12/7/16 15:18	7.19
ICO6-NE5	12/8/16 7:10	7.64
ICO6-NE5	12/8/16 9:50	7.55
ICO6-NE5	12/8/16 13:52	7.14
ICO6-NE5	12/9/16 7:25	7.76
ICO6-NE5	12/9/16 14:52	7.48
ICO6-NE5	12/12/16 11:35	7.96
ICO6-NE5	12/12/16 16:18	7.70
ICO6-NE5	12/13/16 8:40	8.04
ICO6-NE5	12/13/16 14:10	8.05
ICO6-NE5	12/14/16 7:50	8.12
ICO6-NE5	12/21/16 9:10	8.70
ICO6-NE7.5	12/6/16 7:45	7.62
ICO6-NE7.5	12/6/16 9:22	7.34
ICO6-NE7.5	12/6/16 10:56	7.55
ICO6-NE7.5	12/6/16 12:58	7.51
ICO6-NE7.5	12/6/16 15:38	--
ICO6-NE7.5	12/7/16 7:27	7.67
ICO6-NE7.5	12/7/16 10:44	7.56
ICO6-NE7.5	12/7/16 11:53	7.56
ICO6-NE7.5	12/7/16 14:11	7.61
ICO6-NE7.5	12/7/16 15:18	6.24
ICO6-NE7.5	12/8/16 7:10	7.65
ICO6-NE7.5	12/8/16 9:50	7.54
ICO6-NE7.5	12/8/16 13:52	7.10
ICO6-NE7.5	12/9/16 7:25	7.75
ICO6-NE7.5	12/9/16 14:52	7.50
ICO6-NE7.5	12/12/16 11:35	7.97
ICO6-NE7.5	12/12/16 16:18	7.71
ICO6-NE7.5	12/13/16 8:40	8.03
ICO6-NE7.5	12/13/16 14:10	8.08
ICO6-NE7.5	12/14/16 7:50	8.10
ICO6-NE7.5	12/21/16 9:10	8.68

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
ICO7-NE10	12/6/16 7:45	7.54
ICO7-NE10	12/6/16 9:22	7.27
ICO7-NE10	12/6/16 10:56	--
ICO7-NE10	12/6/16 12:58	--
ICO7-NE10	12/6/16 15:38	6.99
ICO7-NE10	12/7/16 7:27	7.52
ICO7-NE10	12/7/16 10:44	7.33
ICO7-NE10	12/7/16 11:53	7.50
ICO7-NE10	12/7/16 14:11	6.26
ICO7-NE10	12/7/16 15:18	--
ICO7-NE10	12/8/16 7:10	7.31
ICO7-NE10	12/8/16 9:50	7.22
ICO7-NE10	12/8/16 13:52	7.20
ICO7-NE10	12/9/16 7:25	7.62
ICO7-NE10	12/9/16 14:52	--
ICO7-NE10	12/12/16 11:35	7.90
ICO7-NE10	12/12/16 16:18	7.50
ICO7-NE10	12/13/16 8:40	7.95
ICO7-NE10	12/13/16 14:10	7.96
ICO7-NE10	12/14/16 7:50	8.04
ICO7-NE10	12/21/16 9:10	8.62
ICO7-SE10	12/6/16 7:45	7.63
ICO7-SE10	12/6/16 9:22	7.33
ICO7-SE10	12/6/16 10:56	7.53
ICO7-SE10	12/6/16 12:58	7.55
ICO7-SE10	12/6/16 15:38	7.21
ICO7-SE10	12/7/16 7:27	7.60
ICO7-SE10	12/7/16 10:44	7.31
ICO7-SE10	12/7/16 11:53	7.58
ICO7-SE10	12/7/16 14:11	7.55
ICO7-SE10	12/7/16 15:18	6.92
ICO7-SE10	12/8/16 7:10	7.59
ICO7-SE10	12/8/16 9:50	7.50
ICO7-SE10	12/8/16 13:52	7.30
ICO7-SE10	12/9/16 7:25	7.68
ICO7-SE10	12/9/16 14:52	--
ICO7-SE10	12/12/16 11:35	7.93
ICO7-SE10	12/12/16 16:18	7.65
ICO7-SE10	12/13/16 8:40	7.98
ICO7-SE10	12/13/16 14:10	7.99
ICO7-SE10	12/14/16 7:50	8.08
ICO7-SE10	12/21/16 9:10	8.66

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
MW-302	12/6/16 7:45	7.43
MW-302	12/6/16 9:22	6.75
MW-302	12/6/16 10:56	7.37
MW-302	12/6/16 12:58	--
MW-302	12/6/16 15:38	--
MW-302	12/7/16 7:27	--
MW-302	12/7/16 10:44	--
MW-302	12/7/16 11:53	--
MW-302	12/7/16 14:11	--
MW-302	12/7/16 15:18	--
MW-302	12/8/16 7:10	--
MW-302	12/8/16 9:50	--
MW-302	12/8/16 13:52	--
MW-302	12/9/16 7:25	--
MW-302	12/9/16 14:52	--
MW-302	12/12/16 11:35	--
MW-302	12/12/16 16:18	--
MW-302	12/13/16 8:40	--
MW-302	12/13/16 14:10	7.80
MW-302	12/14/16 7:50	7.90
MW-302	12/21/16 9:10	8.48
PZ-302	12/6/16 7:45	7.51
PZ-302	12/6/16 9:22	--
PZ-302	12/6/16 10:56	--
PZ-302	12/6/16 12:58	--
PZ-302	12/6/16 15:38	--
PZ-302	12/7/16 7:27	--
PZ-302	12/7/16 10:44	--
PZ-302	12/7/16 11:53	--
PZ-302	12/7/16 14:11	--
PZ-302	12/7/16 15:18	--
PZ-302	12/8/16 7:10	--
PZ-302	12/8/16 9:50	--
PZ-302	12/8/16 13:52	--
PZ-302	12/9/16 7:25	--
PZ-302	12/9/16 14:52	--
PZ-302	12/12/16 11:35	--
PZ-302	12/12/16 16:18	--
PZ-302	12/13/16 8:40	--
PZ-302	12/13/16 14:10	7.61
PZ-302	12/14/16 7:50	8.13
PZ-302	12/21/16 9:10	8.73

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
PZ-316	12/6/16 7:45	10.64
PZ-316	12/6/16 9:22	10.32
PZ-316	12/6/16 10:56	10.51
PZ-316	12/6/16 12:58	10.51
PZ-316	12/6/16 15:38	10.88
PZ-316	12/7/16 7:27	10.65
PZ-316	12/7/16 10:44	10.58
PZ-316	12/7/16 11:53	10.58
PZ-316	12/7/16 14:11	10.59
PZ-316	12/7/16 15:18	10.45
PZ-316	12/8/16 7:10	10.66
PZ-316	12/8/16 9:50	--
PZ-316	12/8/16 13:52	10.62
PZ-316	12/9/16 7:25	10.76
PZ-316	12/9/16 14:52	10.60
PZ-316	12/12/16 11:35	11.00
PZ-316	12/12/16 16:18	10.84
PZ-316	12/13/16 8:40	11.08
PZ-316	12/13/16 14:10	11.08
PZ-316	12/14/16 7:50	11.17
PZ-316	12/21/16 9:10	11.76
MW-317	12/6/16 7:45	--
MW-317	12/6/16 9:22	--
MW-317	12/6/16 10:56	--
MW-317	12/6/16 12:58	--
MW-317	12/6/16 15:38	--
MW-317	12/7/16 7:27	--
MW-317	12/7/16 10:44	10.02
MW-317	12/7/16 11:53	10.04
MW-317	12/7/16 14:11	10.04
MW-317	12/7/16 15:18	9.90
MW-317	12/8/16 7:10	10.09
MW-317	12/8/16 9:50	10.02
MW-317	12/8/16 13:52	9.97
MW-317	12/9/16 7:25	10.20
MW-317	12/9/16 14:52	10.07
MW-317	12/12/16 11:35	10.40
MW-317	12/12/16 16:18	10.30
MW-317	12/13/16 8:40	10.49
MW-317	12/13/16 14:10	10.50
MW-317	12/14/16 7:50	10.58
MW-317	12/21/16 9:10	11.16

Table F-1
 ISCO Injection Water Level Data - December 2016
 Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
 AECOM Project 60518412

Well Number	Date & Time	Depth to Water (ft)
PZ-317	12/6/16 7:45	--
PZ-317	12/6/16 9:22	--
PZ-317	12/6/16 10:56	--
PZ-317	12/6/16 12:58	--
PZ-317	12/6/16 15:38	--
PZ-317	12/7/16 7:27	--
PZ-317	12/7/16 10:44	10.37
PZ-317	12/7/16 11:53	10.39
PZ-317	12/7/16 14:11	10.39
PZ-317	12/7/16 15:18	10.36
PZ-317	12/8/16 7:10	10.49
PZ-317	12/8/16 9:50	10.48
PZ-317	12/8/16 13:52	10.47
PZ-317	12/9/16 7:25	10.60
PZ-317	12/9/16 14:52	10.51
PZ-317	12/12/16 11:35	10.83
PZ-317	12/12/16 16:18	10.72
PZ-317	12/13/16 8:40	10.89
PZ-317	12/13/16 14:10	10.89
PZ-317	12/14/16 7:50	10.97
PZ-317	12/21/16 9:10	11.54

Notes: -- = Not Measured
 Depth to Water in Feet Below Top of Casing

Table F-2
ISCO Injection Field Monitoring Data
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Injection Point	Visual Appearance	Oxidation Reduction Potential (mV)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Temperature (° Celcius)	Permanganate (ppm)
ICO1-TW-SE5 Top	12/5/16 15:10	Start	Clear	-66.3	6.96	1.795	4.57	15.25	--
ICO1-TW-SE5 Top	12/6/16 8:06	Start	Clear	-114.4	8.08	2.935	2.33	15.91	0.00
ICO1-TW-SE5 Top	12/6/16 9:17	ICO-1	Clear	-58.5	6.96	1.908	6.56	14.99	--
ICO1-TW-SE5 Top	12/6/16 15:25	ICO-6	Clear	270.1	7.16	2.482	9.52	13.91	--
ICO1-TW-SE5 Top	12/7/16 8:25	Start	Clear	-19.1	6.88	1.729	0.70	14.43	0.00
ICO1-TW-SE5 Top	12/7/16 15:52	ICO-8	Clear	62.1	7.00	1.741	1.51	14.61	--
ICO1-TW-SE5 Top	12/8/16 8:35	Start	Clear	130.1	6.95	1.700	0.64	12.98	--
ICO1-TW-SE5 Top	12/8/16 15:33	ICO-3	Clear	132.3	7.02	1.723	1.05	12.72	>70
ICO1-TW-SE5 Top	12/9/16 9:16	ICO-5	Clear	28.0	7.08	1.744	3.99	13.46	--
ICO1-TW-SE5 Top	12/9/16 15:05	ICO-7	Clear	-25.7	7.11	1.766	1.39	12.58	--
ICO1-TW-SE5 Top	12/12/16 13:18	Start	Clear	-100.1	7.17	1.736	2.07	12.27	--
ICO1-TW-SE5 Bottom	12/5/16 15:10	Start	Clear	-63.6	6.98	2.614	5.89	15.39	--
ICO1-TW-SE5 Bottom	12/5/16 16:30	ICO-1	Clear	-86.7	7.05	3.055	7.04	15.62	0.00
ICO1-TW-SE5 Bottom	12/6/16 8:02	Start	Clear	-130.4	8.39	5.023	3.66	15.08	0.00
ICO1-TW-SE5 Bottom	12/6/16 9:14	ICO-1	Clear	-89.6	7.04	3.011	3.65	15.98	0.00
ICO1-TW-SE5 Bottom	12/6/16 11:32	ICO-2	Clear	375.6	8.21	4.420	5.28	15.39	0.00
ICO1-TW-SE5 Bottom	12/6/16 15:27	ICO-6	Clear	230.8	7.30	3.722	5.91	15.05	--
ICO1-TW-SE5 Bottom	12/7/16 8:25	Start	Clear	-57.9	7.02	2.872	2.24	15.52	0.00
ICO1-TW-SE5 Bottom	12/7/16 15:54	ICO-6	Clear	-20.9	7.06	2.776	0.87	15.64	--
ICO1-TW-SE5 Bottom	12/8/16 8:40	ICO-3	Clear	92.9	7.05	2.776	3.64	12.97	--
ICO1-TW-SE5 Bottom	12/8/16 15:36	ICO-3	Clear	50.7	7.11	2.892	1.61	14.01	--
ICO1-TW-SE5 Bottom	12/9/16 9:18	ICO-5	Clear	-22.5	7.10	2.871	2.22	13.65	--
ICO1-TW-SE5 Bottom	12/9/16 15:08	ICO-7	Light Purple	--	--	--	--	--	--
ICO1-TW-SE5 Bottom	12/12/16 13:21	Start	Clear	-136.9	7.11	3.013	1.01	15.58	--
ICO1-TW-SE7.5 Top	12/5/16 15:10	Start	Clear	-73.2	7.02	2.684	1.40	15.86	0.00
ICO1-TW-SE7.5 Top	12/6/16 8:04	Start	Clear	-79.5	6.93	2.154	2.77	15.46	0.00
ICO1-TW-SE7.5 Top	12/6/16 9:06	ICO-1	Clear	-52.1	6.38	2.154	1.14	10.53	0.00
ICO1-TW-SE7.5 Top	12/6/16 11:36	ICO-2	Clear	366.4	8.15	3.100	4.36	15.48	0.00
ICO1-TW-SE7.5 Top	12/6/16 15:21	ICO-6	Clear	496.7	8.34	3.235	7.68	15.36	--
ICO1-TW-SE7.5 Top	12/7/16 8:25	Start	Light Pink	445.0	6.86	1.749	0.71	14.60	>2.0

Table F-2
ISCO Injection Field Monitoring Data
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Injection Point	Visual Appearance	Oxidation Reduction Potential (mV)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Temperature (° Celcius)	Permanganate (ppm)
ICO1-TW-SE7.5 Top	12/8/16 8:10	Start	Light Pink/Clear	471.7	6.91	1.806	1.40	13.61	>70
ICO1-TW-SE7.5 Top	12/8/16 15:45	ICO-3	Clear	42.3	6.97	1.822	1.20	12.42	--
ICO1-TW-SE7.5 Top	12/9/16 9:11	ICO-5	Clear	25.5	7.05	1.754	1.47	12.45	0.30
ICO1-TW-SE7.5 Top	12/9/16 15:12	ICO-3	Clear	55.8	7.03	1.676	0.89	13.95	--
ICO1-TW-SE7.5 Top	12/12/16 13:27	Start	Clear	-84.9	7.06	1.686	3.14	12.78	--
ICO1-TW-SE7.5 Bottom	12/5/16 15:10	Start	Clear	-80.5	7.07	3.018	4.13	15.86	--
ICO1-TW-SE7.5 Bottom	12/6/16 7:58	Start	Clear	-74.1	6.88	3.049	3.02	14.61	0.00
ICO1-TW-SE7.5 Bottom	12/6/16 9:08	ICO-1	Clear	-36.5	6.53	3.007	6.47	15.27	0.00
ICO1-TW-SE7.5 Bottom	12/6/16 15:23	ICO-6	Purple	--	--	--	--	--	--
ICO1-TW-SE7.5 Bottom	12/7/16 8:25	Start	Purple	500.0	--	--	--	--	--
ICO1-TW-SE7.5 Bottom	12/8/16 8:13	Start	Light Pink/Clear	485.4	7.07	2.935	1.72	14.29	>70
ICO1-TW-SE7.5 Bottom	12/8/16 15:50	ICO-3	Clear	162.1	7.09	2.926	1.35	15.62	--
ICO1-TW-SE7.5 Bottom	12/9/16 9:13	ICO-5	Light Pink	23.3	7.12	2.951	1.77	14.42	--
ICO1-TW-SE7.5 Bottom	12/9/16 15:15	ICO-3	Clear	-7.1	7.11	2.868	1.03	15.40	--
ICO1-TW-SE7.5 Bottom	12/12/16 13:30	Start	Clear	-115.7	7.12	2.919	2.53	14.09	--
ICO6-TW-NE7.5 Top	12/5/16 15:10	Start	Clear	-71.9	6.99	2.256	8.68	15.82	0.00
ICO6-TW-NE7.5 Top	12/6/16 8:13	Start	Clear	-129.8	7.85	3.603	6.01	14.65	0.00
ICO6-TW-NE7.5 Top	12/6/16 11:10	ICO-2	Clear	-65.8	7.05	2.212	4.49	15.85	0.00
ICO6-TW-NE7.5 Top	12/6/16 13:49	ICO-1	Clear	-68.5	7.08	2.230	0.98	15.42	0.00
ICO6-TW-NE7.5 Top	12/7/16 16:00	ICO-8	Clear	15.4	6.98	1.869	1.53	14.67	--
ICO6-TW-NE7.5 Top	12/12/16 11:52	Start	Purple	--	--	--	--	--	--
ICO6-TW-NE7.5 Bottom	12/5/16 15:05	Start	Clear	-89.0	7.10	2.345	1.64	15.22	0.00
ICO6-TW-NE7.5 Bottom	12/6/16 8:18	Start	Clear	-131.1	7.88	3.844	5.48	15.40	0.00
ICO6-TW-NE7.5 Bottom	12/6/16 11:04	ICO-2	Clear	-81.4	7.10	2.297	3.95	13.44	0.00
ICO6-TW-NE7.5 Bottom	12/6/16 13:53	ICO-6	Clear	-54.5	7.10	2.287	4.22	15.02	0.00
ICO6-TW-NE7.5 Bottom	12/7/16 16:02	ICO-6	Dark Purple	--	--	--	--	--	--
ICO6-TW-NE7.5 Bottom	12/12/16 11:55	Start	Dark Purple	--	--	--	--	--	--

Table F-2
ISCO Injection Field Monitoring Data
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Injection Point	Visual Appearance	Oxidation Reduction Potential (mV)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Temperature (° Celcius)	Permanganate (ppm)
ICO6-TW-NE5 Top	12/5/16 15:10	Start	Clear	-59.9	6.93	2.283	1.10	15.22	0.00
ICO6-TW-NE5 Top	12/6/16 8:31	ICO-1	Clear	-129.7	7.91	3.669	7.21	15.35	--
ICO6-TW-NE5 Top	12/6/16 11:12	ICO-2	Clear	466.0	8.20	3.315	3.66	15.00	0.00
ICO6-TW-NE5 Top	12/6/16 13:51	ICO-2	Clear	313.4	8.70	3.540	4.37	12.72	0.00
ICO6-TW-NE5 Top	12/9/16 8:18	ICO-3	Pink	--	--	--	--	--	--
ICO6-TW-NE5 Top	12/12/16 12:02	Start	Tan	-104.2	7.43	3.813	3.22	13.67	--
ICO6-TW-NE5 Bottom	12/5/16 15:10	Start	Clear	-58.4	6.95	2.293	1.53	15.57	0.00
ICO6-TW-NE5 Bottom	12/6/16 8:27	ICO-1	Clear	-129.1	7.95	3.720	4.49	15.21	--
ICO6-TW-NE5 Bottom	12/6/16 11:06	ICO-2	Clear	501.1	8.88	3.424	3.32	14.87	0.00
ICO6-TW-NE5 Bottom	12/6/16 13:55	ICO-2	Clear	317.5	8.34	3.644	4.84	13.65	0.00
ICO6-TW-NE5 Bottom	12/9/16 8:20	ICO-3	Dark Purple	--	--	--	--	--	--
ICO6-TW-NE5 Bottom	12/12/16 12:05	Start	Dark Purple	--	--	--	--	--	--
ICO7-TW-NE10 Top	12/5/16 15:10	Start	Clear	-45.0	7.06	2.162	5.40	14.05	--
ICO7-TW-NE10 Top	12/6/16 8:37	ICO-1	Clear	-116.4	7.97	3.541	3.48	15.70	--
ICO7-TW-NE10 Top	12/7/16 9:40	ICO-2	Purple	--	--	--	--	--	--
ICO7-TW-NE10 Top	12/12/16 12:10	Start	Pink/Tan/Purple	--	--	--	--	--	--
ICO7-TW-NE10 Bottom	12/5/16 15:10	Start	Clear	-69.2	7.08	2.286	1.65	14.96	--
ICO7-TW-NE10 Bottom	12/6/16 8:42	ICO-1	Clear	-115.4	7.91	3.818	2.10	15.56	--
ICO7-TW-NE10 Bottom	12/7/16 9:40	ICO-2	Purple	--	--	--	--	--	--
ICO7-TW-NE10 Bottom	12/12/16 12:12	Start	Dark Purple	--	--	--	--	--	--
ICO7-TW-SE10 Top	12/5/16 15:10	Start	Clear	-52.5	7.05	2.246	2.98	15.00	--
ICO7-TW-SE10 Top	12/6/16 8:45	ICO-1	Clear	-111.3	8.05	3.661	4.37	15.62	--
ICO7-TW-SE10 Top	12/6/16 11:45	ICO-2	Clear	340.7	8.10	3.701	6.11	15.25	0.00
ICO7-TW-SE10 Top	12/6/16 13:14	ICO-2	Clear	294.5	8.72	3.537	6.26	13.67	0.00
ICO7-TW-SE10 Top	12/6/16 15:17	ICO-6	Clear	525.3	8.50	3.027	6.90	13.86	0.00
ICO7-TW-SE10 Top	12/7/16 9:40	ICO-2	Pink	65.6	7.01	2.161	0.69	15.19	45
ICO7-TW-SE10 Top	12/7/16 15:41	ICO-8	Clear	85.4	7.10	2.127	1.97	13.53	--
ICO7-TW-SE10 Top	12/8/16 8:05	Start	Pink	459.4	7.03	2.156	3.03	11.97	--
ICO7-TW-SE10 Top	12/8/16 15:16	ICO-3	Pink	404.2	7.18	2.053	4.84	11.14	--
ICO7-TW-SE10 Top	12/9/16 8:23	ICO-3	Light Pink	--	--	--	--	--	--
ICO7-TW-SE10 Top	12/12/16 13:10	Start	Light Purple	--	--	--	--	--	--

Table F-2
ISCO Injection Field Monitoring Data
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Injection Point	Visual Appearance	Oxidation Reduction Potential (mV)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Temperature (° Celcius)	Permanganate (ppm)
ICO7-TW-SE10 Bottom	12/5/16 15:10	Start	Clear	-52.7	7.10	2.414	5.12	15.24	--
ICO7-TW-SE10 Bottom	12/6/16 8:45	ICO-1	Clear	-116.9	8.03	3.989	4.95	15.50	--
ICO7-TW-SE10 Bottom	12/6/16 11:42	ICO-2	Clear	329.5	7.95	4.058	6.87	15.31	0.00
ICO7-TW-SE10 Bottom	12/6/16 13:11	ICO-2	Clear	247.5	9.21	3.875	9.56	13.38	0.00
ICO7-TW-SE10 Bottom	12/6/16 15:15	ICO-6	Clear	558.1	8.81	3.108	6.55	14.81	0.00
ICO7-TW-SE10 Bottom	12/7/16 9:35	ICO-2	Tan Cloudy	155.7	7.00	2.413	1.12	15.73	>2.0
ICO7-TW-SE10 Bottom	12/7/16 15:43	ICO-8	Purple	--	--	--	--	--	--
ICO7-TW-SE10 Bottom	12/8/16 8:05	Start	Dark Purple	--	--	--	--	--	--
ICO7-TW-SE10 Bottom	12/8/16 15:18	ICO-3	Deep Purple	--	--	--	--	--	--
ICO7-TW-SE10 Bottom	12/9/16 8:25	ICO-3	Purple	--	--	--	--	--	--
ICO7-TW-SE10 Bottom	12/12/16 13:13	Start	Dark Purple	--	--	--	--	--	--
MW-302	12/5/16 15:10	Start	Clear	-67.9	7.02	2.454	2.09	15.96	--
MW-302	12/6/16 8:51	ICO-1	Clear	-100.4	8.02	3.993	7.54	15.31	--
PZ-302	12/5/16 15:10	Start	Clear	-38.6	9.37	0.679	6.59	15.00	--
PZ-302	12/6/16 8:53	ICO-1	Purple	-164.5	8.61	1.491	4.71	16.22	--
PZ-316	12/5/16 14:20	Start	Clear	-26.3	7.33	1.450	7.09	14.66	0.00
PZ-316	12/6/16 11:20	ICO-2	Clear	377.4	8.63	2.224	6.48	14.81	0.00
PZ-316	12/6/16 15:35	ICO-6	Clear	199.6	8.30	2.162	6.88	15.16	--
PZ-316	12/7/16 8:07	Start	Clear	-22.9	7.44	1.416	2.61	13.63	0.00
PZ-316	12/7/16 16:18	ICO-8	Clear	14.4	7.52	1.430	2.48	14.41	--
PZ-316	12/8/16 9:23	ICO-4	Clear	72.4	7.58	1.435	3.44	11.79	--
PZ-316	12/8/16 15:08	ICO-3	Clear	24.4	7.59	1.414	1.94	14.14	--
PZ-316	12/9/16 8:10	Start	Clear	16.2	7.42	1.395	1.87	13.63	--
PZ-316	12/9/16 15:20	ICO-9	Clear	-34.0	7.50	1.480	1.44	15.06	--
PZ-316	12/12/16 11:47	Start	Clear	-94.6	7.47	1.438	3.79	15.65	--

Notes:

mg/L = milligrams per liter
mV = Milivolts
µS/cm Microsiemens/centimeter
ppm = parts per million
-- = Not Measured

Table F3
ISCO Post Injection Field Monitoring Data - December 2016
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Purge Rate (mL/min.)	Volume Removed (L)	pH	Specific Conductivity (µS/cm)	Temperature (C)	Color	Oxidation Reduction Potential (mV)	DO (mg/L)
ICO1-TW-SE5 Top	12/14/16 10:52	--	--	7.19	1.596	11.88	Clear	-114.7	4.17
ICO1-TW-SE5 Top	12/14/16 10:55	--	--	7.07	1.618	12.02	Clear	-123.1	2.70
ICO1-TW-SE5 Top	12/14/16 10:58	--	--	7.02	1.625	12.99	Clear	-127.2	1.46
ICO1-TW-SE5 Top	12/14/16 11:01	--	--	7.03	1.634	12.94	Clear	-125.2	1.05
ICO1-TW-SE5 Top	12/14/16 11:04	--	--	7.02	1.643	13.12	Clear	-126.8	0.75
ICO1-TW-SE5 Top	12/14/16 11:07	--	--	6.99	1.739	13.26	Clear	-130.9	0.52
ICO1-TW-SE5 Top	12/14/16 11:09	--	--	6.97	1.849	13.02	Clear	-140.7	0.32
ICO1-TW-SE5 Top	12/14/16 11:13	--	--	6.97	1.989	12.67	Clear	-150.2	0.26
ICO1-TW-SE5 Top	12/14/16 11:16	--	--	6.97	2.092	12.59	Clear	-146.4	0.21
ICO1-TW-SE5 Top	12/14/16 11:19	--	--	6.97	2.147	12.70	Clear	-142.8	0.20
ICO1-TW-SE5 Top	12/21/16 11:30	300	0	6.56	1.387	13.57	Clear	-39.3	0.61
ICO1-TW-SE5 Top	12/21/16 11:35	300	1.5	6.59	1.392	14.02	Clear	-60.7	0.28
ICO1-TW-SE5 Top	12/21/16 11:40	300	3	6.71	1.450	14.44	Clear	-78.8	0.20
ICO1-TW-SE5 Top	12/21/16 11:45	300	4.5	6.75	1.812	14.61	Clear	-70.9	0.26
ICO1-TW-SE5 Top	12/21/16 11:50	300	6	6.80	1.951	14.63	Clear	-124.3	0.16
ICO1-TW-SE5 Top	12/21/16 11:55	300	7.5	6.80	1.977	14.64	Clear	-124.8	0.16
ICO1-TW-SE5 Top	12/21/16 12:00	300	9	6.80	1.981	14.68	Clear	-134.7	0.16
ICO1-TW-SE5 Bottom	12/14/16 12:30	--	--	8.03	3.640	11.55	Clear	471	2.56
ICO1-TW-SE5 Bottom	12/14/16 12:33	--	--	7.92	3.732	11.85	Clear	400.1	1.42
ICO1-TW-SE5 Bottom	12/14/16 12:36	--	--	7.88	3.712	12.10	Clear	378.4	1.17
ICO1-TW-SE5 Bottom	12/14/16 12:39	--	--	7.85	3.606	12.18	Clear	328	0.99
ICO1-TW-SE5 Bottom	12/14/16 12:42	--	--	7.83	3.530	12.33	Clear	279.5	0.93
ICO1-TW-SE5 Bottom	12/14/16 12:45	--	--	7.83	3.385	12.35	Clear	126.9	0.80
ICO1-TW-SE5 Bottom	12/14/16 12:48	--	--	7.84	3.299	12.39	Clear	34	0.75
ICO1-TW-SE5 Bottom	12/14/16 12:51	--	--	7.81	3.194	12.46	Clear	-62.8	0.67
ICO1-TW-SE5 Bottom	12/14/16 12:54	--	--	7.82	3.126	12.65	Clear	-90.4	0.59
ICO1-TW-SE5 Bottom	12/14/16 12:57	--	--	7.82	3.027	12.55	Clear	-100.1	0.55
ICO1-TW-SE5 Bottom	12/14/16 13:00	--	--	7.80	2.994	12.45	Clear	-101.7	0.64
ICO1-TW-SE5 Bottom	12/21/16 12:05	300	0	6.83	2.731	14.24	Clear	-139.3	0.38
ICO1-TW-SE5 Bottom	12/21/16 12:10	300	1.5	6.85	2.728	14.18	Clear	-148.7	0.29
ICO1-TW-SE5 Bottom	12/21/16 12:15	300	3	6.88	2.657	14.39	Clear	-159.7	0.23
ICO1-TW-SE5 Bottom	12/21/16 12:20	300	4.5	6.84	2.355	14.37	Clear	-165.2	0.43
ICO1-TW-SE5 Bottom	12/21/16 12:25	300	6	6.83	2.239	14.25	Clear	-165.2	0.30
ICO1-TW-SE5 Bottom	12/21/16 12:30	300	7.5	6.82	2.166	14.29	Clear	-165.6	0.26
ICO1-TW-SE5 Bottom	12/21/16 12:35	300	9	6.82	2.136	14.22	Clear	166.5	0.22

Table F3
ISCO Post Injection Field Monitoring Data - December 2016
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Purge Rate (mL/min.)	Volume Removed (L)	pH	Specific Conductivity (µS/cm)	Temperature (C)	Color	Oxidation Reduction Potential (mV)	DO (mg/L)
ICO6-TW-NE5 Top	12/14/16 15:00	--	--	7.38	4.188	12.98	--	395.6	4.35
ICO6-TW-NE5 Top	12/14/16 15:03	--	--	7.99	4.237	13.82	--	392.3	1.73
ICO6-TW-NE5 Top	12/14/16 15:06	--	--	7.48	4.372	13.75	--	452.1	0.63
ICO6-TW-NE5 Top	12/14/16 15:09	--	--	7.59	5.435	14.76	--	602.4	0.54
ICO6-TW-NE5 Top	12/21/16 15:20	300	0	7.53	3.415	13.56	Brown	135.0	0.41
ICO6-TW-NE5 Top	12/21/16 15:25	300	1.5	7.55	3.777	14.54	Brown	137.1	0.24
ICO6-TW-NE5 Top	12/21/16 15:30	300	3	7.62	3.815	14.60	Brown	136.0	0.19
ICO6-TW-NE5 Bottom	12/14/16 0:00	--	--				Purple		
ICO6-TW-NE5 Bottom	12/21/16 15:30	300	0	7.75	3.315	13.51	Purple	459.1	6.90
ICO6-TW-NE5 Bottom	12/21/16 15:35	300	1.5	7.71	6.880	11.50	Purple	469.1	5.90
ICO6-TW-NE5 Bottom	12/21/16 15:40	300	3	7.78	7.681	15.34	Purple	469.9	1.06
ICO7-TW-SE10 Top	12/14/16 13:52	--	--	7.63	7.576	11.92	--	463.4	5.12
ICO7-TW-SE10 Top	12/14/16 13:55	--	--	7.61	8.233	11.63	--	526.6	6.08
ICO7-TW-SE10 Top	12/14/16 13:58	--	--	7.64	8.536	12.07	--	536.4	6.27
ICO7-TW-SE10 Top	12/14/16 14:01	--	--	7.65	8.696	12.36	--	546.1	6.35
ICO7-TW-SE10 Top	12/14/16 14:04	--	--	7.65	8.822	12.71	--	555.8	6.51
ICO7-TW-SE10 Top	12/14/16 14:07	--	--	7.67	8.908	12.76	--	564.4	6.76
ICO7-TW-SE10 Top	12/14/16 14:10	--	--	7.69	8.956	13.07	--	567.7	6.83
ICO7-TW-SE10 Top	12/14/16 14:13	--	--	7.69	8.987	12.55	--	571.0	7.07
ICO7-TW-SE10 Top	12/21/16 13:45	300	0	7.15	1.838	11.81	Clear	51.0	1.30
ICO7-TW-SE10 Top	12/21/16 13:50	300	1.5	7.06	1.885	12.99	Clear	18.8	0.40
ICO7-TW-SE10 Top	12/21/16 13:55	300	3	7.04	1.888	13.37	Clear	13.1	0.32
ICO7-TW-SE10 Top	12/21/16 14:00	300	4.5	7.01	1.878	13.47	Clear	12.4	0.33
ICO7-TW-SE10 Top	12/21/16 14:05	300	6	7.00	1.869	13.42	Clear	13.1	0.29
ICO7-TW-SE10 Bottom	12/21/16 14:10	300	0	7.02	3.284	14.51	Purple	200.1	3.49
ICO7-TW-SE10 Bottom	12/21/16 14:15	300	1.5	6.90	3.050	14.71	Purple	438.5	0.45
ICO7-TW-NE10 Top	12/14/16 13:51	--	--	8.19	2.793	10.66	--	457.8	2.84
ICO7-TW-NE10 Top	12/14/16 13:54	--	--	8.09	2.828	11.05	--	467.6	2.44
ICO7-TW-NE10 Top	12/14/16 13:57	--	--	8.05	2.853	11.28	--	470.5	2.36
ICO7-TW-NE10 Top	12/14/16 14:00	--	--	8.04	2.870	11.51	--	472.4	2.06
ICO7-TW-NE10 Top	12/14/16 14:03	--	--	8.02	2.887	11.65	--	474.3	1.92
ICO7-TW-NE10 Top	12/14/16 14:06	--	--	8.00	2.889	11.65	--	476.8	1.73
ICO7-TW-NE10 Top	12/14/16 14:09	--	--	8.01	2.925	11.88	--	478.2	1.57
ICO7-TW-NE10 Top	12/14/16 14:12	--	--	7.99	2.933	11.88	--	479.7	1.43
ICO7-TW-NE10 Top	12/21/16 14:22	300	0	7.32	5.693	12.92	Clear	353.2	0.70
ICO7-TW-NE10 Top	12/21/16 2:27	300	1.5	7.45	6.429	14.66	Clear	270.0	0.24
ICO7-TW-NE10 Top	12/21/16 2:32	300	3	7.46	6.742	14.75	Clear	250.5	0.23

Table F3
ISCO Post Injection Field Monitoring Data - December 2016
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Purge Rate (mL/min.)	Volume Removed (L)	pH	Specific Conductivity (µS/cm)	Temperature (C)	Color	Oxidation Reduction Potential (mV)	DO (mg/L)
ICO7-TW-NE10 Bottom	12/14/16 14:31	--	--	7.52	9.504	18.37	--	607.4	1.74
ICO7-TW-NE10 Bottom	12/14/16 14:34	--	--	7.53	9.534	18.45	--	614.7	1.78
ICO7-TW-NE10 Bottom	12/14/16 14:37	--	--	7.53	9.554	18.37	--	619.3	1.89
ICO7-TW-NE10 Bottom	12/14/16 14:40	--	--	7.53	9.561	18.31	--	620.5	1.90
ICO7-TW-NE10 Bottom	12/14/16 14:51	--	--	8.08	4.184	12.86	--	540.1	4.30
ICO7-TW-NE10 Bottom	12/14/16 14:54	--	--	8.03	3.986	13.12	--	535.3	3.64
ICO7-TW-NE10 Bottom	12/14/16 14:57	--	--	8.02	3.957	13.15	--	534.7	3.58
ICO7-TW-NE10 Bottom	12/14/16 15:00	--	--	8.02	3.700	13.27	--	532.5	3.35
ICO7-TW-NE10 Bottom	12/21/16 14:35	300	0	7.57	8.879	16.30	Purple	238.7	0.66
ICO7-TW-NE10 Bottom	12/21/16 14:43	300	1.5	7.51	9.013	16.24	Purple	241.7	0.35
MW-302	12/14/16 15:43	--	--	8.94	7.800	11.94	--	579.5	2.96
MW-302	12/14/16 15:46	--	--	8.60	7.690	12.09	--	577.6	2.78
PZ-302	12/14/16 15:44	--	--	11.72	18.75	13.53	--	--	--
ICO6-TW-NE7.5 Top	12/14/16 15:21	--	--	12.02	15.15	15.06	--	441.1	9.26
ICO6-TW-NE7.5 Top	12/21/16 14:52	300	0	7.45	3.696	13.80	Clear	213.4	0.52
ICO6-TW-NE7.5 Top	12/21/16 14:57	300	1.5	7.55	3.813	13.00	Clear	194.7	0.42
ICO6-TW-NE7.5 Top	12/21/16 15:02	300	3	7.50	3.715	12.03	Clear	183.7	0.51
ICO6-TW-NE7.5 Bottom	12/14/16 15:12	--	--	9.74	16.6	14.87	--	--	--
ICO6-TW-NE7.5 Bottom	12/21/16 15:09	300	0	7.83	7.295	15.15	Purple	156.8	0.42
ICO6-TW-NE7.5 Bottom	12/21/16 15:14	300	1.5	7.85	7.063	15.50	Purple	135.8	0.23
ICO1-TW-SE7.5 Top	12/14/16 10:55	--	--	8.54	1.118	9.37	Clear	-60.2	12.54
ICO1-TW-SE7.5 Top	12/14/16 10:58	--	--	8.16	1.328	10.86	Clear	-43.2	2.72
ICO1-TW-SE7.5 Top	12/14/16 11:01	--	--	8.05	1.343	11.07	Clear	-31.9	2.03
ICO1-TW-SE7.5 Top	12/14/16 11:04	--	--	7.91	1.305	10.75	Clear	-28.3	1.77
ICO1-TW-SE7.5 Top	12/14/16 11:07	--	--	7.82	1.305	10.65	Clear	-30	1.42
ICO1-TW-SE7.5 Top	12/14/16 11:10	--	--	7.82	1.300	10.45	Clear	-38.9	1.31
ICO1-TW-SE7.5 Top	12/14/16 11:13	--	--	7.81	1.332	10.06	Clear	-55.9	1.20
ICO1-TW-SE7.5 Top	12/14/16 11:16	--	--	7.82	1.353	9.80	Clear	-57.9	1.23
ICO1-TW-SE7.5 Top	12/14/16 11:19	--	--	7.77	1.383	9.68	Clear	-57.4	1.20
ICO1-TW-SE7.5 Top	12/21/16 9:56	300	0	6.09	1.360	13.16	Clear	238.9	1.16
ICO1-TW-SE7.5 Top	12/21/16 10:01	300	1.5	6.36	1.456	14.21	Clear	175.4	0.33
ICO1-TW-SE7.5 Top	12/21/16 10:06	300	3	6.56	1.765	14.54	Clear	149.1	0.25
ICO1-TW-SE7.5 Top	12/21/16 10:11	300	4.5	6.71	1.987	14.74	Clear	54.6	0.30
ICO1-TW-SE7.5 Top	12/21/16 10:16	300	6	6.77	2.030	14.83	Clear	-19.8	0.25
ICO1-TW-SE7.5 Top	12/21/16 10:21	300	7.5	6.80	2.023	14.95	Clear	-56.9	0.23
ICO1-TW-SE7.5 Top	12/21/16 10:26	300	9	6.80	2.022	14.85	Clear	-69.3	0.21
ICO1-TW-SE7.5 Top	12/21/16 11:31	300	10.5	6.78	2.038	14.72	Clear	-89.4	0.20
ICO1-TW-SE7.5 Top	12/21/16 11:36	300	12	6.80	2.033	14.77	Clear	-122.1	0.20
ICO1-TW-SE7.5 Top	12/21/16 11:41	300	13.5	6.79	1.991	14.90	Clear	-128.2	0.25

Table F3
ISCO Post Injection Field Monitoring Data - December 2016
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Purge Rate (mL/min.)	Volume Removed (L)	pH	Specific Conductivity (µS/cm)	Temperature (C)	Color	Oxidation Reduction Potential (mV)	DO (mg/L)
ICO1-TW-SE7.5 Bottom	12/14/16 11:48	--	--	7.81	3.853	10.65	Purple	526.4	2.71
ICO1-TW-SE7.5 Bottom	12/14/16 11:51	--	--	7.85	3.879	11.65	Purple	530.7	1.96
ICO1-TW-SE7.5 Bottom	12/14/16 11:54	--	--	7.84	3.881	12.47	Purple	533	1.56
ICO1-TW-SE7.5 Bottom	12/14/16 11:57	--	--	7.90	3.839	12.28	Purple	531.9	1.35
ICO1-TW-SE7.5 Bottom	12/14/16 12:00	--	--	7.88	3.830	12.83	Purple	532.4	1.17
ICO1-TW-SE7.5 Bottom	12/14/16 12:03	--	--	7.91	3.765	11.83	Purple	532.3	1.24
ICO1-TW-SE7.5 Bottom	12/14/16 12:06	--	--	7.89	3.782	12.75	Purple	530.2	1.09
ICO1-TW-SE7.5 Bottom	12/14/16 12:09	--	--	7.93	3.712	12.97	Purple	529.7	1.03
ICO1-TW-SE7.5 Bottom	12/14/16 12:12	--	--	7.87	3.664	12.27	Purple	529.9	0.98
ICO1-TW-SE7.5 Bottom	12/21/16 10:47	300	0	6.86	2.757	14.67	Clear	-48.8	0.57
ICO1-TW-SE7.5 Bottom	12/21/16 10:52	300	1.5	6.85	2.765	15.14	Clear	-35.3	0.30
ICO1-TW-SE7.5 Bottom	12/21/16 10:57	300	3	6.86	2.686	15.25	Clear	-39.6	0.25
ICO1-TW-SE7.5 Bottom	12/21/16 11:02	300	4.5	6.87	2.547	15.27	Clear	-68.3	0.22
ICO1-TW-SE7.5 Bottom	12/21/16 11:07	300	6	6.86	2.375	15.20	Clear	-96.9	0.20
ICO1-TW-SE7.5 Bottom	12/21/16 11:12	300	7.5	6.84	2.218	15.21	Clear	-116.4	0.21
ICO1-TW-SE7.5 Bottom	12/21/16 11:17	300	9	6.83	2.160	15.29	Clear	-128.7	0.19
ICO1-TW-SE7.5 Bottom	12/21/16 11:22	300	10.5	6.82	2.087	15.26	Clear	-141.1	0.19
PZ-316	12/14/16 12:25	--	--	7.78	1.496	12.34	--	-152.6	5.94
PZ-316	12/14/16 12:28	--	--	7.63	1.484	14.83	--	-145.0	2.37
PZ-316	12/14/16 12:31	--	--	7.58	1.493	14.63	--	-146.6	1.87
PZ-316	12/14/16 12:34	--	--	7.56	1.496	14.08	--	-156.8	1.53
PZ-316	12/14/16 12:37	--	--	7.54	1.504	14.23	--	-165.8	1.20
PZ-316	12/14/16 12:40	--	--	7.52	1.509	14.29	--	-164.4	1.01
PZ-316	12/14/16 12:43	--	--	7.52	1.510	14.20	--	-165.8	1.00
MW-317	12/14/16 10:10	--	--	8.29	1.149	10.34	Clear	83.1	7.46
MW-317	12/14/16 10:13	--	--	8.03	1.966	10.60	Clear	-69.9	5.29
MW-317	12/14/16 10:16	--	--	7.99	2.302	10.88	Clear	-89.9	3.63
MW-317	12/14/16 10:19	--	--	7.97	2.074	10.47	Clear	-110.5	1.65
MW-317	12/14/16 10:22	--	--	7.93	1.973	10.39	Clear	-116.9	1.31
MW-317	12/14/16 10:25	--	--	7.93	1.977	10.40	Clear	-120.4	1.20
MW-317	12/14/16 10:28	--	--	7.95	1.910	10.38	Clear	-122.3	1.12
MW-317	12/14/16 10:31	--	--	7.93	1.882	10.44	Clear	-118.9	1.05
MW-317	12/14/16 10:34	--	--	7.93	1.759	10.54	Clear	-114.4	1.01

Table F3
ISCO Post Injection Field Monitoring Data - December 2016
Kenosha Engine Plant, 5555 30th Avenue, Kenosha, WI
AECOM Project 60518412

Well Number	Date & Time	Purge Rate (mL/min.)	Volume Removed (L)	pH	Specific Conductivity (μS/cm)	Temperature (C)	Color	Oxidation Reduction Potential (mV)	DO (mg/L)
PZ-317	12/14/16 10:10	--	--	7.73	1.372	13.33	Clear	-103.1	2.21
PZ-317	12/14/16 10:13	--	--	7.74	1.363	13.35	Clear	-115.7	2.11
PZ-317	12/14/16 10:16	--	--	7.74	1.357	13.18	Clear	-121.4	2.16
PZ-317	12/14/16 10:19	--	--	7.72	1.368	12.78	Clear	-127.7	2.28
PZ-317	12/14/16 10:22	--	--	7.71	1.361	12.32	Clear	-137.7	2.36
PZ-317	12/14/16 10:25	--	--	7.68	1.357	12.28	Clear	-143.6	2.27
PZ-317	12/14/16 10:28	--	--	7.64	1.360	12.59	Clear	-139.1	2.24

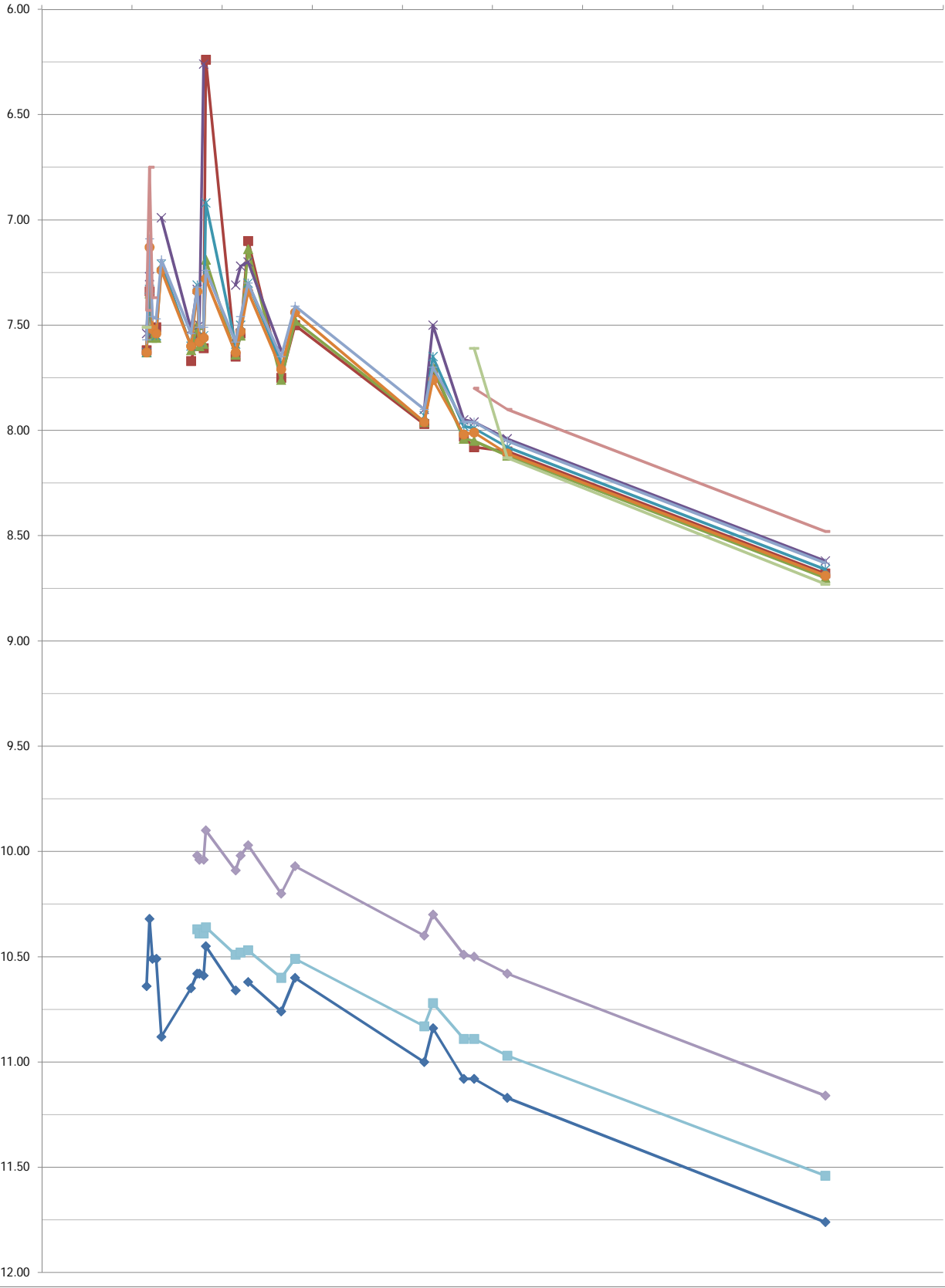
Notes:

mg/L = milligrams per liter
mV = Millivolts
 μ S/cm Microsiemens/centimeter
-- = Not Measured

DO = Dissolved Oxygen

Depth to Water (ft)

12/4/2016 12/6/2016 12/8/2016 12/10/2016 12/12/2016 12/14/2016 12/16/2016 12/18/2016 12/20/2016 12/22/2016 12/24/2016



- PZ-316
- ICO6-NE7.5
- ICO6-NE5
- ICO7-NE10
- ICO7-SE10
- ICO1-SE5
- ICO1-SE7.5
- MW-302
- PZ-302
- MW-317
- PZ-317

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