

Amended Focused Site Investigation Report/Remediation Objectives Report/Remedial Action Plan

0312615005— Cook County
River Forest / River Forest Cleaners
(7601-7621 Lake Street)
Site Remediation Program / Technical Reports

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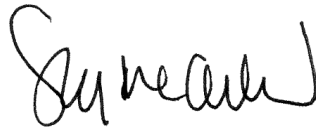
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Licensed Professional Engineer Affirmation

I attest that all site investigations or remedial activities, including review of laboratory data, that are the subject of this plan or report were performed under my direction and this document and all attachments were prepared under my direction or reviewed by me, and, to the best of my knowledge and belief, the work described in the plan or report has been designed or completed in accordance with the Act, 35 Ill. Adm. Code 740, and generally accepted engineering practices, and the information presented, including any qualified laboratory data is accurate and complete.

In addition, I affirm that the documentation of the prior investigations or remedial activities is suitable for use and consideration in evaluating site conditions in connection with this assessment.



Jeffrey McClelland, P.E.
Vice President

19-0338-101

Pioneer Project Number

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EXECUTIVE SUMMARY

Pioneer Engineering & Environmental Services, LLC (Pioneer) was contracted by Lake Lathrop LLC (Remediation Applicant) to provide environmental consulting services for the property located at 7601-7621 Lake Street in River Forest (Cook County), Illinois. This property was enrolled into the Site Remediation Program in 2004, and numerous stages of subsurface investigation were completed between 2001 and 2010 to evaluate the historical use of a portion of the site (7613/7615 Lake St.) as a dry cleaning facility. Note that the Remediation Site boundaries have been herein revised to include a west adjacent site known as 7617-7621 Lake Street due to the migration of volatile organic compounds (VOCs) from the dry cleaning facility and since this formerly adjacent site will be redeveloped in conjunction with redevelopment of the original Remediation Site.

The prior analytical results identified tetrachloroethylene (PCE) and associated degradation compounds at concentrations exceeding the applicable Tier 1 soil and groundwater remediation objectives (SROs and GROs), and PCE was identified in several samples at concentrations exceeding the default soil saturation limit in place at that time. The Illinois EPA previously accepted a site-specific soil saturation limit of 304 mg/kg for PCE; however, an updated, site-specific soil saturation limit has been calculated based on current chemical-specific variables (Henry's Law Constant and organic carbon partition coefficient); the updated site-specific soil saturation limit presented herein is 1,075 mg/kg.

Supplemental testing was performed at the Remediation Site in 2016 and 2019 in an effort to further characterize the site, evaluate current conditions, and attempt to delineate the extent of contamination where PCE was previously identified at concentrations exceeding the updated site-specific soil saturation limit. The supplemental investigation activities identified several VOCs (primarily the chlorinated dry cleaning solvent PCE and its degradation compounds) at concentrations exceeding the applicable Tier 1 remediation objectives.

It is important to note that two areas of the site where PCE was previously identified above the updated soil saturation limit (B3100 and B3800) were evaluated through the advancement of eight soil borings in 2019, and no soil saturation limit impacts were identified in these areas. Although there appears to have been attenuation of the PCE impacts in these areas, the supplemental testing identified a soil saturation limit impact on the east-central portion of the site in an area where PCE was previously identified at concentrations exceeding the default soil saturation limit but below the updated soil saturation limit.

Active remediation will be necessary to achieve the site-specific soil saturation limit for PCE (1,075 mg/kg) at one soil boring location. The treatment technology proposed herein for the Remediation Site is in-situ remediation using sodium permanganate, which will be applied using direct-push injection techniques. Following remediation of the soil saturation limit impact, residual contaminants will be addressed through exclusion of the affected exposure routes in accordance with the Tiered Approach to Corrective Action Objectives regulations.

Upon successful remediation of the soil saturation limit impact, an Interim Remedial Action Completion Report will be submitted to the Illinois EPA to document the remediation activities and confirmation sampling results, and demonstrate that the appropriate criteria for managing residual contamination through exclusion of the affected exposure routes will be satisfied. Specifically, it is anticipated that pathway exclusion will be pursued through the following engineering, preventive and institutional controls:

- providing a site safety plan to construction workers for intrusive work performed in impacted areas;
- installation and maintenance of engineered barriers to exclude the soil ingestion exposure route and possibly the outdoor inhalation exposure route, depending on the results of post-treatment soil gas sampling;
- installation, operation and maintenance of a vapor mitigation system for the proposed on-site structure;
- use of an existing municipal ordinance to prohibit any potable use of groundwater beneath the Remediation Site and off-site properties that may be affected by migration of contaminants; and
- notification of *potential* contaminant migration to any off-site property owners that *may* be affected as determined by fate and transport modeling calculations using RBCA Equation R26.

The objective of this Amended FSIR/ROR/RAP is to obtain the Illinois EPA's approval of the updated soil saturation limit for PCE and the proposed in-situ remediation technology selected for this project. The work outlined herein is being voluntarily conducted to facilitate the eventual issuance of a focused No Further Remediation letter from the Illinois EPA. The contents of this submittal are intended to satisfy the requirements of Title 35 Illinois Administrative Code 740.435, 740.445, and 740.450.

This report has been prepared for the use of the Remediation Applicant, and for evaluation by the Illinois EPA, and cannot be relied upon by other persons or entities without the permission of Pioneer. The observations and conclusions contained herein are limited by the scope and intent of the work mutually agreed upon by the client and Pioneer and the work actually performed. There are no warranties, implied or expressed, concerning the environmental integrity of areas and/or mediums not analytically tested.

1.0 AMENDED FOCUSED SITE INVESTIGATION REPORT

1.1 Introduction

The Remediation Site was enrolled into the Site Remediation Program (SRP) on June 2, 2004, and the following documents were previously submitted to the Illinois Environmental Protection Agency (Illinois EPA).

- *Phase I Environmental Site Assessment* (Phase I) report, dated December 15, 2003, prepared by Northern Environmental;
- *Focused Site Investigation Report* (FSIR), dated December 15, 2003, prepared by Northern Environmental;
- *Response to IEPA Correspondence*, dated February 28, 2006, prepared by Northern Environmental;
- *Off-Site Supplemental Focused Site Investigation Report*, dated August 21, 2007, prepared by Northern Environmental;
- *Focused Site Investigation Report* (FSIR), dated July 27, 2009, prepared by Bonestroo;
- *Focused Site Investigation and Remedial Objectives Report Addendum* (FSI/ROR Addendum), dated January 2010, prepared by Bonestroo;
- *Revised Focused Site Investigation and Remedial Objectives Report Addendum* (Revised FSI/ROR Addendum), dated November 2010, prepared by Bonestroo.

In a letter dated January 4, 2011, the Illinois EPA approved the prior site investigation activities.

This current submittal provides a general summary of the prior soil and groundwater testing results, and discusses supplemental soil and groundwater activities that were performed in 2016 by Tetra Tech and 2019 by Pioneer. This report is intended to serve as a combined *Amended Focused Site Investigation Report/Remediation Objectives Report/Remedial Action Plan* (Amended FSIR/ROR/RAP).

1.2 Site Description

1.2.1 Physical Site Features

The Remediation Site is roughly rectangular in shape and includes an approximate 23,250-square-foot property historically identified as 7601-7615 Lake Street and an approximate 5,000-square-foot property identified as 7617-7621 Lake Street. The Remediation Site was most recently developed with two, multi-unit commercial buildings (constructed atop concrete slab-on-grade foundations) and associated parking lots. These structures were demolished in late 2019, and the site is currently vacant.

The topography of the Remediation Site and immediate adjacent sites is relatively level. According to a USGS topographic map (see Appendix B), the elevation of the Remediation Site is approximately 630

feet above mean sea level, and regional topography slopes to the west/northwest toward the Des Plaines River.

1.2.2 Legal Description

The Remediation Site is located within Section 12, Township 39 North, Range 12, East of the Third Principal meridian. The legal description and Cook County parcel index numbers for the Remediation Site will be provided within the Remedial Action Completion Report.

1.2.3 Uses of Remediation Site & Surrounding Area

The Remediation Site was developed with multi-unit commercial structures. Tenants of environmental concern included a gasoline station at 7601 Lake Street from approximately 1925 to 1979 (with six underground storage tanks [USTs] reportedly removed in 1983), and a dry cleaning facility at 7613/7615 Lake Street from approximately 1928 to 2015.

The following table provides a summary of current surrounding land use.

Table 1-1 Uses of the Surrounding Sites

Direction	Surrounding Sites
North	Lake Street (public right-of-way), followed by a private school and church
East	Lathrop Avenue (public right-of-way), followed by a commercial structure (to the east at 7579 Lake St.) and a multi-unit residential structure (to the southeast at 415-417 Lathrop Ave.)
South	The majority of the Remediation Site is bordered to the south by a private parking lot, followed by a residential structure. The western portion of the Remediation Site is bordered to the south by a former residential property (423 Ashland Ave) that is scheduled for redevelopment in conjunction with redevelopment of the Remediation Site. Farther south is another residential property.
West	Commercial property (7627 Lake Street), followed by Ashland Avenue (public right-of-way)

An aerial photograph and zoning map of the Remediation Site and vicinity are provided in Appendix B.

1.2.4 Recognized Environmental Conditions

The recognized environmental condition (REC) associated with the Remediation Site is the confirmed presence of volatile organic compounds (VOCs), primarily chlorinated solvent VOCs, in the site's soil and groundwater at concentrations exceeding the Tier 1 remediation objectives.

1.2.5 Contaminants of Concern

A focused NFR letter is being pursued for the VOCs identified in Appendix A, Table A of the SRP regulations (35 IAC 740).

1.2.6 Regional Geology/Hydrogeology

The following table provides a summary of published geological conditions according to Illinois State Geological Survey (ISGS) maps. Copies of the ISGS maps are provided in Appendix B.

Table 1-2 ISGS Map Summary

ISGS Map	Geological Description
Surficial Geology of the Chicago Region	ed: (to the south/southeast): Dolton Member of the Equality Formation - largely shallow-water, near-shore lake sediments in beaches, bars, spits and deltas; dominantly medium-grained sand
	lp: (to the north/northwest): Lake plain - floors of glacial lakes flattened by wave erosion and minor deposition in low areas; largely underlain by glacial till
Stack-Unit Mapping of Geological Materials in Illinois to a Depth of 15 Meters	gl (to the south/southeast): Dolton Member of the Equality Formation less than ~19.7 feet in thickness, overlying silty clayey glacial till of the Wedron Formation
	l (to the north/northwest): Wedron Formation - silty/clayey glacial till, greater than ~19.7 feet in thickness
Plate 1, Potential for Contamination of Shallow Aquifers in Illinois	B1: (to the south/southeast) sand and gravel less than 20 feet thick overlying relatively impermeable till or bedrock
	E: (to the north/northwest) uniform, relatively impermeable silty or clayey till at least 50 feet thick, with no evidence of interbedded sand and gravel

Based on an interpretation of the general topography of the Remediation Site and surrounding area, regional groundwater is expected to flow in a northerly/northwesterly direction toward the Des Plaines River, the nearest point of which is located approximately 3,575 feet southwest of the Remediation Site. Note that localized, site-specific conditions may vary due to a variety of factors, including geologic anomalies, utilities, and subsurface structures and/or developments.

1.3 General Summary of Prior Sampling Results

Various soil and groundwater investigations were conducted at the Remediation Site between 2001 and 2010. As documented in the reports previously submitted to the Illinois EPA (refer to Section 1.1), chlorinated solvent (tetrachloroethylene [PCE]) contamination was identified throughout the Remediation Site, with the highest contaminant concentrations previously identified beneath the former dry cleaning unit, along the southern wall of the dry cleaning unit, and on the east-central portion of the site. Several concentrations of PCE were identified above the default soil saturation limit in effect at that time. A copy of a figure showing the estimated extent of contamination previously identified on site (Figure 5 from the Revised FSI/ROR Addendum, dated November 2010) is provided in Appendix A.

1.4 Supplemental Sampling Plan

Tetra Tech conducted a supplemental investigation of the Remediation Site in February 2016, including the advancement of 18 soil borings (TT-100 through TT-117), installation of six temporary groundwater monitoring wells, and resampling of three wells previously installed at the site by other consultants; Tetra Tech noted that the remaining existing monitoring wells were “damaged or found to be dry.”

Pioneer mobilized subsurface drilling equipment, and OSHA-certified personnel to the subject property on August 24 and September 5, 2019 for the advancement of 15 soil borings (B6001 through B6015), and collection of groundwater samples from four of the seven previously installed monitoring wells. Note that Pioneer’s soil boring locations were intended to:

- evaluate the immediate areas of prior borings B3100 and B3800 to confirm the previously-identified soil saturation limit impacts remain at these locations;
- delineate the areas around prior borings B3100 and B3800;
- evaluate current conditions in areas within and along the southern portion of the dry cleaning facility where PCE was previously identified above the land disposal restriction limit in shallow soils; and
- evaluate soils within 5 feet of surface grade on the eastern portion of the site where PCE impacts were identified at depths of 10 feet below grade, but where no shallow soil samples were previously collected.

A summary of the recent soil sampling plans is outlined in the following table.

Table 1-3 Summary of the Supplemental Sampling Activities

Soil Boring ID	Total Depth (ft)	Interval Sampled (ft)	Analyses	Investigation Purpose
Tetra Tech - February 2016				
TT-100	35	6-8	VOCs	Evaluate conditions near the southeastern corner of the former gasoline station structure, near a suspected former UST area
		10-12	VOCs	
		16-18	VOCs	
MW-100	25	GW	VOCs	
TT-101	35	6-8	VOCs	Evaluate conditions along the southwestern corner of the former gasoline station structure, near a suspected UST
		12-14	VOCs	
		20-22	VOCs	
MW-101	20	GW		
TT-102	32.5	0-2	VOCs	Further evaluation of VOC impacts west/southwest of the former dry cleaning facility
		6-8	VOCs	
		10-12	VOCs	
		12-14	VOCs	
MW-102	26	GW	VOCs	
TT-103	32.5	0-2	VOCs	Evaluate current conditions near B500/B4900
		4-6	VOCs	

Soil Boring ID	Total Depth (ft)	Interval Sampled (ft)	Analyses	Investigation Purpose
TT-104	30	0-2	VOCs, TCLP VOCs	Further evaluation of VOC impacts southwest of the former dry cleaning facility
		6-8	VOCs	
		14-16	VOCs	
MW-104	20	GW	VOCs	
TT-105	15	0-2	VOCs, TCLP VOCs	Evaluate current conditions near B100/B2600
		6-8	VOCs	
TT-106	15	2-4	VOCs	Unknown (location was not specified in the Tetra Tech report)
		4-6	VOCs, TCLP VOCs	
TT-107	15	2-4	VOCs	Evaluate current conditions near B600/B2500
		6-8	VOCs, TCLP VOCs	
TT-108	30	0-2	VOCs	Additional site coverage on the southwestern portion of the site
		6-8	VOCs	
		12-14	VOCs	
MW-108	20	GW	VOCs	
TT-109	30	0-2	VOCs	Additional site coverage on the northeastern portion of the site
		6-8	VOCs	
TT-110	30	0-2	VOCs	Evaluate conditions/possible migration of contaminants north of the former west adjacent site (7617-7621 Lake St.)
		6-8	VOCs	
		16-18	VOCs	
TT-111	30	0-2	VOCs	Evaluate current conditions/possible migration of contaminants north of the former dry cleaning facility
		6-8	VOCs	
		14-16	VOCs	
MW-111	20	GW	VOCs	
TT-112	30	0-2	VOCs	Additional site coverage on the northeastern portion of the site
		6-8	VOCs	
TT-113	14	0-2	VOCs	Further evaluation of conditions on the rear portion of the former west adjacent site (7617-7621 Lake St.)
		4-6	VOCs	
		10-12	VOCs	
TT-114	12	0-2	VOCs	Further evaluation of conditions on the rear portion of the former west adjacent site (7617-7621 Lake St.) near B2000/B2100
		4-6	VOCs	
		10-12	VOCs	
TT-115/ TT-115A	14	2-4	VOCs	Evaluate current conditions inside the former dry cleaning facility, near B40 and B3000
		6-8	VOCs	
		8-10	VOCs, TCLP VOCs	
		10-12	VOCs	

Soil Boring ID	Total Depth (ft)	Interval Sampled (ft)	Analyses	Investigation Purpose
TT-116	12	0-2	VOCs	Evaluate current conditions inside the former dry cleaning facility, near B2900
		6-8	VOCs	
		10-12	VOCs	
TT-117	12	0-2	VOCs	Evaluate current conditions inside the former dry cleaning facility, near B200 and B300
		6-8	VOCs	
		10-12	VOCs	
MW-1000	~14.5	GW	VOCs	Evaluate current groundwater conditions on the eastern portion of the site
MW-1300	~16	GW	VOCs	Evaluate current groundwater conditions on the northeastern portion of the site
MW-1800	~15.5	GW	VOCs	Evaluate current groundwater conditions on the southwestern portion of the site
Pioneer - August & September 2019				
B6001	5	0-2.5	VOCs	Evaluate shallow soils in an area where PCE was previously identified above the Tier 1 SROs in deeper intervals
B6002	15	0-2.5	VOCs, TCLP VOCs	Evaluate shallow soils in an area where PCE was previously identified above the Tier 1 SROs in deeper intervals (near prior borings B3300, B4300 and B4600)
		5-7.5	VOCs	Evaluate current conditions in an area where PCE was previously identified above the default soil saturation limit
		10-12.5	VOCs, TCLP VOCs	
		12.5-15	VOCs	Vertical delineation
B6003	5	0-2.5	VOCs	Evaluate shallow soils in an area where PCE was previously identified above the Tier 1 SROs in deeper intervals
B6004	5	0-2.5	VOCs, TCLP VOCs	Evaluate current conditions in general area where PCE was previously identified above 60 mg/kg (near prior boring B2500 and a former on-site dumpster)
B6005	10	0-2.5	VOCs	Evaluate current conditions in general area where PCE was previously identified above 60 mg/kg (near prior borings B600 and B2000)
		5-7.5	VOCs	Evaluate current conditions
B6006	5	0-2.5	VOCs	Evaluate current conditions in general area where PCE was previously identified above 60 mg/kg (near prior borings B2900 and B4900)
B6007	5	2.5-5	VOCs	Evaluate current conditions in general area where PCE was previously identified above 60 mg/kg (near prior boring B2900)
B6008	15	5-7.5	VOCs	Evaluate current conditions/lateral delineation (to the west) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
		10-12.5	VOCs	Vertical delineation
B6009	15	7.5-10	VOCs	Evaluate current conditions in the immediate area where PCE was previously identified above the anticipated site-specific soil saturation limit (at prior boring B3100)
		12.5-15	VOCs	Vertical delineation
B6010	15	2.5-5	VOCs, TCLP VOCs	Evaluate current conditions/lateral delineation (to the east) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
		5-7.5	VOCs	

Soil Boring ID	Total Depth (ft)	Interval Sampled (ft)	Analyses	Investigation Purpose
B6011	15	7.5-10	VOCs	Evaluate current conditions in the immediate area where PCE was previously identified above the anticipated site-specific soil saturation limit (at prior boring B3800)
		12.5-15	VOCs	Vertical delineation
B6012	15	7.5-10	VOCs	Evaluate current conditions/lateral delineation (to the north) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
		12.5-15	VOCs	Vertical delineation
B6013	15	10-12.5	VOCs	Evaluate current conditions/lateral delineation (to the east) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
		12.5-15	VOCs	Vertical delineation
B6014	15	7.5-10	VOCs	Evaluate current conditions/lateral delineation (to the south) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
		10-12.5	VOCs	Vertical delineation
B6015	15	7.5-10	VOCs	Evaluate current conditions/lateral delineation (to the south) in an area where PCE was previously identified above the anticipated site-specific soil saturation limit
MW-900	~14	GW	VOCs	Evaluate current groundwater conditions on the southwestern portion of the site
MW-1300	~16	GW	VOCs	Evaluate current groundwater conditions on the northeastern portion of the site
MW-1600	~47	GW	VOCs	Evaluate current groundwater conditions on the northeastern portion of the site
MW-1800	~15.5	GW	VOCs	Evaluate current groundwater conditions on the southwestern portion of the site

Notes: GW = groundwater sample (interval not applicable)
TCLP = toxicity characteristic leaching procedure
VOCs = volatile organic compounds

1.5 Documentation of Supplemental Investigation Field Activities

The following is a general discussion of the supplemental sampling activities performed by Tetra Tech and Pioneer.

1.5.1 Supplemental Soil Boring Advancement/Sampling

Soil borings were advanced using hydraulic, direct-push technology to depths ranging from approximately 5 to 35 feet below exterior surface grade, with samples collected continuously across the sampling intervals from ground surface to boring terminus. Soil samples were retrieved using dual tube samplers lined with dedicated, disposable plastic liners. Portions of the soil samples were packed into laboratory-provided containers (40-milliliter vials and 4- or 9-oz glass jars) for possible analysis following the single-transfer protocol discussed in the SW-846 Method 5035 guidance.

Packed sample containers were placed on ice in coolers, and shipped or delivered to independent laboratories. For samples collected by Pioneer, the cooler was retained in the possession of Pioneer personnel at all times, and upon completion of the field activities, the samples were delivered to Pioneer's office where the samples were transferred directly from the cooler into a refrigerator dedicated to storing soil and groundwater samples. The samples were contained within the refrigerator until they were relinquished to a NELAC-certified, independent laboratory under standard chain-of-custody procedures.

The remaining portions of soil from the sample intervals were logged according to their predominant geological characteristics in accordance with the Unified Soil Classification System (USCS), and allowed to equilibrate to ambient temperatures (approximately 15 minutes) in an airtight Ziplock™ bag, for further field screening using a photoionization detector (PID). The maximum screening results and geological conditions encountered during drilling are listed on the soil boring logs provided in Appendix C.

1.5.2 Groundwater Monitoring Well Installation/Sampling

Six temporary groundwater monitoring wells were installed by Tetra Tech in February 2016 using PVC screen and riser pipes, with 10-foot lengths of well screens set at the depths of the corresponding borehole that remained open (25 feet at TT-100/MW-100; 26 feet at TT-102/MW-102; and 20 feet at TT-101/MW-101, TT-104/MW-104, TT-108/MW-108 and TT-111/MW-111). The wells were completed with PVC riser pipes to near surface grade, and the annular space surrounding each well screen was filled with sand.

Tetra Tech also collected groundwater samples from three of the existing monitoring wells (MW-1000, MW-1300 and MW-1800), and Pioneer collected groundwater samples from four of the previously installed monitoring wells (MW-900, MW-1300, MW-1600 & MW-1800). At the time of Pioneer's sampling event (September 2019), MW1100 was observed to be dry, and the remaining groundwater monitoring wells (MW600 and MW1000) were inaccessible at that time due to onsite demolition activities.

Tetra Tech reportedly collected the groundwater sampling "at a relatively low flow" using a peristaltic pump with dedicated tubing for each well. Pioneer's groundwater samples were collected using individual, disposable polyethylene bailers dedicated to each well, with a minimum of three well volumes of water were purged from the wells prior to sampling. Groundwater samples were carefully decanted directly from the tubing or bailers into laboratory-provided vials containing hydrochloric acid preservative. Filled sample containers were placed on ice in coolers, and shipped or delivered to an independent laboratory.

For samples collected by Pioneer, the cooler was retained in the possession of Pioneer personnel at all times, and upon completion of the field activities, the samples were delivered to Pioneer's office where the samples were transferred directly from the cooler into a refrigerator dedicated to storing soil and groundwater samples. The samples were contained within the refrigerator until they were relinquished to

a NELAC-certified, independent laboratory under standard chain-of-custody procedures. Copies of the monitoring well logs are included in Appendix C.

1.5.3 Field Observations

The following table provides a summary of sampling locations that exhibited field evidence of contamination. A complete listing of the field observations encountered during drilling are provided on the soil boring and monitoring well logs in Appendix C.

Table 1-4 Summary of Supplemental Testing Field Observations

Sampling Locations that Displayed Field Evidence of Contamination	
Suspect odors:	Petroleum Odor TT-100 (12.5-15')
Staining or other visual evidence of contamination:	None
Elevated field screening readings (> 5 ppm):	≥200 ppm: TT-100, B6002
	100 to 199 ppm: B6010, B6011, B6012, B6013
	50 to 99 ppm: B6014, B6015
	6 to 49 ppm: TT-101, TT-102, TT-106, B6008, B6009

Notes: ppm = parts per million
PID = photoionization detector

1.6 Site Geology

Subsurface materials consisted of sand and gravel fill that extended from approximately 0.5 to 2 feet below surface grade (BSG), followed by units of black or brown medium stiff clay/silty clay that extended to approximately 2 to 5 feet BSG. The upper clay/silty clay units were underlain by a unit of brown, medium-dense to dense fine-grained sand lenses with trace fine-grained gravel. The sand lenses generally extended to depths ranging from approximately 9 to 11, 20 to 25, or 25 to 27.5 feet BSG (per Tetra Tech's borings), and was underlain by gray clay/silty clay that exhibited a stiff to hard consistency and extended to the maximum boring termination depth (35 feet). A complete listing of the geological conditions encountered during the supplemental drilling activities are provided on the soil boring and monitoring well logs in Appendix C.

1.7 Site Hydrogeology

1.7.1 Hydraulic Gradient

Data previously presented by Bonestroo in 2010 indicated a northeasterly direction of flow with an estimated gradient of 0.03. However, this direction of flow and gradient information included

groundwater elevation data from MW1600, which was screened at a deeper depth than the remaining wells.

Therefore, Pioneer evaluated the historical groundwater elevation data for all previously installed monitoring wells excluding MW1600, and hydraulic gradients were calculated utilizing an online hydraulic gradient calculator provided by the US EPA (Appendix D). The following table outlines the groundwater elevation data from prior gauging events.

Table 1-5 Prior Groundwater Elevation Data

Monitoring Well ID	Well Elevation	Date	Depth to Water	Water Table Elevation
MW600 (1" ID well)	629.23	12/10/2001	8.80	620.43
		12/6/2004	8.35	620.88
		10/6/2005	14.03	615.2
		4/1/2009	7.85	621.38
		9/29/2010	10.47	618.76
MW900 (1" ID well)	629.11	12/10/2001	8.64	620.47
		12/6/2004	8.35	620.76
		10/6/2005	8.95	620.16
		4/1/2009	7.78	621.33
		9/29/2010	8.87	620.24
MW1000 (1" ID well)	628.41	12/10/2001	10.61	617.80
		12/6/2004	9.50	618.91
		10/6/2005	10.97	617.44
		4/1/2009	9.08	619.33
		9/29/2010	9.76	618.65
MW1100 (1" ID well)	628.18	12/10/2001	Dry	--
		12/6/2004	Dry	--
		10/6/2005	Dry	--
		4/1/2009	14.36	613.82
		9/29/2010	14.63	613.55
MW1300 (1" ID well)	628.36	12/10/2001	Not Yet Installed	--
		12/6/2004	15.47	612.89
		10/6/2005	Dry	--
		4/1/2009	13.86	614.50
		9/29/2010	13.8	614.56
MW1800 (2" ID well)	625.31	12/10/2001	Not Yet Installed	--
		12/6/2004	Not Yet Installed	--
		10/6/2005	13.10	612.21
		4/1/2009	7.80	617.51
		9/29/2010	8.91	616.40

Notes: All measurements presented in feet
Well elevations referenced to benchmark elevation of 629.0
MW1600 was set at a deeper depth than the above-listed wells and thus disregarded from the gradient calculation

As summarized in the following table, groundwater elevation data for the Remediation Site yielded hydraulic gradients ranging from 0.02078 to 0.04942 ft/ft, with a general northerly direction of groundwater flow.

Table 1-6 Summary of Measured Groundwater Flow Directions and Gradients

Date	Flow Direction	Gradient
12/10/2001	Easterly/Northeasterly (65.27°)	0.02078
12/6/2004	Northerly/Northeasterly (18.26°)	0.04942
10/6/2005	Northwesterly (312.0°)	0.02130
4/1/2009	Northerly (3.54°)	0.03838
9/29/2010	Northerly (351.0°)	0.03348

Note: Flow direction as degrees from North, positive y axis

1.7.2 Hydraulic Conductivity

The hydraulic conductivity testing initially conducted by Northern Environmental on November 18, 2002 yielded a value of 1.68×10^{-6} cm/s, measured in MW900; however, MW900 was constructed of 1-inch internal diameter PVC and was later deemed inappropriate for use in determining the hydraulic conductivity. Therefore, additional hydraulic conductivity testing was performed by Northern on October 6, 2005 using a 2-inch diameter monitoring well (MW1800) and yielded a value of 7.16×10^{-7} cm/s.

1.7.3 Potable Well Survey

In an effort to determine if any active potable wells exist within a 2,500-foot radius of the Remediation Site, Pioneer reviewed the Illinois EPA's Source Water Assessment Program (SWAP) website and reviewed well survey records provided in the reports previously submitted to the SRP. Documentation associated with this potable well survey is provided in Appendix D. The following table provides a summary of the available information.

Table 1-7 Potable Well Survey Results

Wells, Setback Zones or Regulated Recharge Areas Within 2,500 feet of the Remediation Site	Well Depth / Date Installed	Approximate Distance to Remediation Site
Community Water Supply Wells and/or Associated Minimum or Adopted Maximum Setback Zones	None	--
ISGS Database Wells; ISGS Water and Related Wells*	Water well ("Bowman Dairy Co.")	2,073 feet / 1930 ~1,000 feet E/SE
	Water well ("River Forest Tennis")	408 feet / 1969 ~1,070 feet N/NE
	Water well ("River Forest Well")	2,150 feet / 1921 ~1,390 feet NW
Non-Community Water Supply Wells and/or Associated Minimum Setback Zones	None	--
Regulated Recharge Areas	None	--

Note: *12 engineering wells were also identified in the ISGS records

Based on the available information, the Remediation Site is not located within the minimum or maximum designated setback zones or regulated recharge area of any active potable wells.

1.7.4 Groundwater Classification

A Class II groundwater demonstration was previously presented to the Illinois EPA. However, based on recent soil boring activities conducted by Tetra Tech (2016), which identified deeper lenses of sand and sandy gravel, a Class I designation will be used for this project going forward.

1.8 Endangerment Assessment

1.8.1 Applicable Exposure Routes

The following table outlines the applicable Tier 1 remediation objectives for the site pursuant to 35 IAC 742 (the Tiered Approach to Corrective Action Objectives [TACO] regulations).

Table 1-8 Applicable Remediation Objectives

TACO Exposure Routes	Applicable Tier 1 Objectives
Soil Ingestion	
Tier 1 SROs - residential	√
Tier 1 SROs - industrial/commercial	--
Tier 1 SROs - construction worker	√
Outdoor Inhalation	
Tier 1 SROs & SGROs - residential	√
Tier 1 SROs & SGROs - industrial/commercial	--
Tier 1 SROs & SGROs - construction worker	√
Indoor Inhalation	
Tier 1 GROs & SGROs, Table H - residential	√ ⁽¹⁾
Tier 1 GROs & SGROs, Table H - industrial/commercial	--
Tier 1 GROs & SGROs, Table I - residential	--
Tier 1 GROs & SGROs, Table I - industrial/commercial	--
Soil & Groundwater Components of Groundwater Ingestion	
Tier 1 SROs & GROs - Class I groundwater	√
Tier 1 SROs & GROs - Class II groundwater	--

Note: (1) The future on-site structure will be constructed atop a poured concrete slab on grade with no applicable sumps.

1.8.2 Migration Pathways

Given the nature of chlorinated dry cleaning solvent, which is a dense, non-aqueous phase liquid, and the geologic conditions observed at the site, the potential for contaminant migration along man-made pathways such as utility corridors or building foundations is relatively limited, and the primary fate and transport of contaminants in the subsurface will be largely controlled by gravity and the migration of

groundwater perched within the sandy sediments generally found within approximately 9 to 11 feet of surface grade.

1.8.3 Tier 1 Evaluation - Supplemental Soil & Groundwater Samples

The supplemental soil and groundwater sampling activities indicated that various VOCs were detected at concentrations exceeding the Tier 1 SROs and GROs. Complete listings of the supplemental soil and groundwater testing results in comparison to the applicable Tier 1 SROs and GROs are provided in Tables Nos. 1 and 2 in the "Tables" section of the appendices. Copies of the associated laboratory analytical reports are included in Appendix E (note that the laboratory reports for samples collected by Tetra Tech present the results in units of µg/kg or µg/mL). The following tables provide summaries of the supplemental soil and groundwater samples where targeted parameters recently identified above the Tier 1 SROs or GROs.

Table 1-9 Summary of Supplemental Soil Testing Results (2016 & 2019)

Soil Sample ID	Soil Ingestion (residential)	Outdoor Inhalation (residential)	Soil Ingestion (construction worker)	Inhalation (construction worker)	Class I Migration to Groundwater	Csat
Tetra Tech (2016)						
TT-100-0608	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-100-1012	--	--	--	--	(11DCE), (12DCP), (B), cDCE, PCE, TCE, (VC)	--
TT-100-1618	PCE, (VC)	PCE, TCE, (VC)	--	(12DCP), PCE, TCE, (VC)	(11DCE), (12DCP), (B), cDCE, PCE, (tDCE), TCE, (VC)	--
TT-101-0608	--	--	--	--	PCE	--
TT-101-1214	PCE, (VC)	PCE, TCE, (VC)	--	(12DCP), PCE, (VC)	(11DCE), (12DCP), (B), cDCE, PCE, (tDCE), TCE, (VC)	--
TT-101-2022	PCE, (VC)	PCE, TCE, (VC)	--	(12DCP), PCE, (VC)	(11DCE), (12DCP), (B), cDCE, PCE, (tDCE), TCE, (VC)	--
TT-102-0002	--	--	--	--	(11DCE), (12DCP), (B), cDCE, PCE, TCE, (VC)	--
TT-102-0608	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-102-1012	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-103-0002	VC	VC	--	VC	(11DCE), (12DCP), (B), cDCE, PCE, tDCE TCE, VC	--
TT-103-0406	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--

Soil Sample ID	Soil Ingestion (residential)	Outdoor Inhalation (residential)	Soil Ingestion (construction worker)	Inhalation (construction worker)	Class I Migration to Groundwater	Csat
TT-104-0608	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
TT-104-1416	--	--	--	--	(11DCE), (12DCP), (B), (PCE), (TCE), (VC)	--
TT-105-0002	--	--	--	--	VC	--
TT-105-0608	PCE	PCE, (VC)	--	PCE	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-106-0204	--	--	--	--	(11DCE), (12DCP), (B), cDCE, PCE, TCE, (VC)	--
TT-106-0406	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
TT-107-0204	PCE, VC	PCE, TCE, VC	--	--	(11DCE), (12DCP), (B), cDCE, PCE, tDCE, TCE, VC	--
TT-107-0608	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
TT-110-0608	--	--	--	--	PCE	--
TT-111-0608	PCE, (VC)	PCE, (VC)	--	12DCP,PCE, (VC)	(11DCE), 12DCP, (B), cDCE), PCE, (tDCE) (TCE), (VC)	--
TT-112-0002	--	--	--	--	PCE	--
TT-112-0608	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-113-0002	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-113-0406	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-114-0002	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-114-0406	--	--	--	--	(11DCE), (12DCP), (B), PCE, TCE, (VC)	--
TT-115-0204	--	--	--	--	PCE	--
TT-115-0608	PCE	PCE	--	(12DCP),PCE	(11DCE), (12DCP), (B), cDCE, PCE, TCE, (VC)	--
TT-115A-0810	PCE, (VC)	PCE, TCE, (VC)	--	(12DCP),PCE, TCE, (VC)	(11DCE), (12DCP), (B), cDCE, PCE, (tDCE), TCE, (VC)	--
TT-115A-1012	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
TT-116-0002	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
TT-116-0608	PCE	PCE	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--

Soil Sample ID	Soil Ingestion (residential)	Outdoor Inhalation (residential)	Soil Ingestion (construction worker)	Inhalation (construction worker)	Class I Migration to Groundwater	Csat
TT-117-0002	PCE	PCE	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
	PCE	PCE	--	PCE	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
Pioneer (2019)						
B6002 (0-2.5)	--	--	--	--	(11DCE), (12DCP), PCE, TCE, (VC)	--
B6002 (5-7.5)	--	--	--	--	PCE	--
B6002 (10-12.5)	(12DCP), PCE, TCE, (VC)	(12DCP), (B), PCE, TCE, (VC)	PCE	(11DCE), (12DCP), (B), (CD), PCE, TCE, (VC), (X)	(11DCE), (12DCP), (A), (B), (cDCE), (E), PCE, (T), (tDCE), TCE, (VC)	PCE
B6003 (0-2.5)	--	--	--	--	PCE	--
B6004 (0-2.5)	--	--	--	--	(12DCP), PCE, TCE, (VC)	--
B6005 (0-2.5)	--	--	--	--	PCE	--
B6005 (5-7.5)	--	--	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
B6006 (0-2.5)	--	--	--	--	(11DCE), (12DCP), PCE, (TCE), (VC)	--
B6007 (2.5-5)	--	--	--	--	(12DCP), PCE, TCE, (VC)	--
B6008 (5-7.5)	--	--	--	--	(11DCE), (12DCP), PCE, (TCE), (VC)	--
B6009 (7.5-10)	PCE, (VC)	PCE, (VC)	--	PCE	(11DCE), (12DCP), (B), (cDCE), PCE, (TCE), (VC)	--
B6010 (2.5-5)	PCE	PCE	--	--	(11DCE), (12DCP), (B), PCE, (TCE), (VC)	--
B6010 (5-7.5)	--	--	--	--	(12DCP), PCE, (VC)	--
B6011 (7.5-10)	PCE, (VC)	PCE, (VC)	--	(12DCP), PCE, (VC)	(11DCE), (12DCP), (A), (B), (cDCE), PCE, (tDCE), (TCE), (VC)	--
B6012 (7.5-10)	PCE, (VC)	PCE, (VC)	--	(12DCP), PCE, (VC)	(11DCE), (12DCP), (A), (B), (cDCE), PCE, (tDCE), (TCE), (VC)	PCE
B6013 (10-12.5)	--	--	--	--	(12DCP), PCE, (VC)	--
B6014 (7.5-10)	PCE, (VC)	PCE, (VC)	--	(12DCP), PCE	(11DCE), (12DCP), (B), (cDCE), PCE, (tDCE), (TCE), (VC)	--
B6015 (7.5-10)	PCE, (VC)	PCE, (VC)	--	(12DCP), PCE	(11DCE), (12DCP), (A), (B), (cDCE), PCE, (tDCE), (TCE), (VC)	--

Notes: -- indicates no targeted contaminants of concern were detected above the objectives
 () compounds listed in parentheses represent elevated detection limits that exceed the Tier 1 SROs (note that elevated detection limits were only evaluated for confirmed contaminants)
 11DCE = 1,1-dichloroethene
 12DCP = 1,2-dichloropropane

A = acetone
B = benzene
CD = carbon disulfide
cDCE = cis-1,2-dichloroethylene
E = ethylbenzene
PCE = tetrachloroethylene
T = toluene
tDCE = trans-1,2-dichloroethylene
TCE = trichloroethylene
VC = vinyl chloride

Table 1-10 Summary of Supplemental Groundwater Testing Results (2016 & 2019)

Sample ID	Groundwater Component of Class I Groundwater Ingestion	Residential Indoor Inhalation
Tetra Tech (2016)		
B100/MW-100	11DCE, cDCE, PCE, tDCE, TCE, VC	PCE, TCE, VC
B101/MW-101	cDCE, PCE, TCE, VC	PCE
B102/MW-102	PCE	--
B104/MW-104	--	--
B108/MW-108	--	--
B111/MW-111	--	--
MW1000	cDCE, PCE, TCE	PCE
MW1300	--	--
MW1800	--	--
Pioneer (2019)		
MW900	PCE	--
MW1300	--	--
MW1600	--	--
MW1800	--	--

Notes: -- indicates no targeted parameters were detected above the Tier 1 objectives for this exposure route

11DCE = 1,1-dichloroethene
cDCE = cis-1,2-dichloroethylene
PCE = tetrachloroethylene
tDCE = trans-1,2-dichloroethylene
TCE = trichloroethylene
VC = vinyl chloride

1.9 Conclusions

The analytical results identified various VOCs (primarily PCE and its associated degradation compounds) at concentrations exceeding the applicable Tier 1 SROs and Tier 1 GROs. The affected Tier 1 exposure routes include the following:

- the soil ingestion and outdoor inhalation exposure routes for residential property;
- the soil ingestion and inhalation exposure routes for construction worker populations;
- the indoor inhalation exposure route for residential property; and
- the soil and groundwater components of the Class I groundwater ingestion exposure route.

Also, PCE was identified above the default soil saturation limit in two of the recently collected soil samples, and the recent sampling activities indicate that the PCE soil saturation limit impacts previously identified beneath the former dry cleaning facility and former east adjacent unit have attenuated.

In order to determine the appropriate level of remedial action necessary to address the Tier 1 impacts, and as discussed in the following Section 2.0 – Remediation Objectives Report (ROR), the various options available in TACO will be utilized to evaluate the potential for exposure to identified contaminants based on site-specific conditions.

2.0 AMENDED REMEDIATION OBJECTIVES REPORT

2.1 Introduction

To determine the appropriate level of remedial action necessary to address contaminant concentrations identified above the Tier 1 remediation objectives, Pioneer evaluated the various options available in the Part 742 regulations. The following table identifies all applicable exposure routes and the VOCs that were identified at concentrations exceeding the corresponding Tier 1 remediation objectives.

Table 2-1 Summary of Contaminants & Affected Exposure Routes

Identified VOC	Exposure Routes for Applicable Tier 1 Remediation Objectives							
	Soil Ingestion (residential)	Outdoor Inhalation (residential)	Soil Ingestion (construction worker)	Inhalation (construction worker)	Soil Component of Class I Groundwater	Groundwater Component of Class I Groundwater	Indoor Inhalation (residential)	Csat
1,1-dichloroethene	--	--	--	√	√	√	--	--
1,2-dichloropropane	√	√	--	√	√	--	--	--
Acetone	--	--	--	--	√	--	--	--
Benzene	--	√	--	√	√	--	--	--
Carbon Disulfide	--	--	--	√	--	--	--	--
cDCE	--	--	--	--	√	√	--	--
Ethylbenzene	--	--	--	--	√	--	--	--
PCE	√	√	√*	√	√	√	√	√*
Toluene	--	--	--	--	√	--	--	--
tDCE	--	--	--	--	√	√	--	--
TCE	√	√	--	√	√	√	√	--
Vinyl Chloride	√	√	--	√	√	√	√	--
Xylenes	--	--	--	√	--	--	--	--

Notes: √ indicates the compound was detected or is potentially present above the Tier 1 SROs

* indicates active remediation will be performed to address this impact

-- indicates the exposure route objective was not exceeded by the identified parameter

cDCE = cis-1,2-dichloroethylene

PCE = tetrachloroethylene

tDCE = trans-1,2-dichloroethylene

TCE = trichloroethylene

2.2 Site-Specific Soil Saturation Limit & Soil Attenuation Capacity

A site-specific soil saturation limit of 304 mg/kg was previously calculated by Bonestroo using SSL Equation S29, and the site-specific organic carbon content of 0.0081 g/g (which was adjusted using the 0.58 factor). The Illinois EPA stated in a letter dated March 4, 2010 that this value was acceptable; however, the S29 calculation is herein updated to account for the revised organic carbon partition coefficient and Henry's Law constant published in the 2013 version of the TACO regulations.

As shown on Spreadsheet 1 in Appendix F, the updated soil saturation limit for PCE is 1,075 mg/kg.

The following Table 2-1 provides a comparison of the concentrations of PCE detected above the default soil saturation limit at the Remediation Site to the site-specific soil saturation limit.

Table 2-2 Comparison of PCE Concentrations Exceeding the Default Soil Saturation Limit to the Proposed Site-Specific Soil Saturation Limit

Soil Sample ID	Concentration of PCE Exceeding the Default Soil Saturation Limit	Proposed Site-Specific Soil Saturation Limit
B500 (0-2)	360	1,075
B600 (0-2)	360	
B3000 (6-9)	940	
B3100 (10.5-12)	14,000*	
B3300 (10-12)	430	
B3300 (16-18)	430	
B3800 (9-10.5)	1,300*	
B4300 (10-12.5)	830	
B4700 (10-12.5)	570	
B4900 (0-2.5)	550	
B6002 (10-12.5)	4,540	
B6012 (7.5-10)	354	

Notes: All concentrations and the soil saturation limit are presented in mg/kg (parts per million)

Sample IDs/concentrations listed in **bold text/shaded cell** exceed the site-specific soil saturation limit

* indicates a location that was resampled in 2019, and no soil saturation limit impacts were identified (B6008, B6009, B6013 and B6014 were advanced around B3100, and B6010, B6011, B6012 and B6015 were advanced around B3800)

Active remediation will be performed to reduce the concentration of PCB at B6002 to achieve the site-specific soil saturation limit, and remaining impacts will be addressed through exclusion of the affected exposure routes.

2.3 Exposure Route Evaluation

The first step in an exposure route evaluation is to identify the exposure pathways that require further consideration. Following active remediation, the affected exposure routes are expected to include:

- the soil ingestion and outdoor inhalation exposure routes for residential property;
- the soil ingestion and inhalation exposure routes for construction worker populations;
- the indoor inhalation exposure route for residential property; and
- the soil and groundwater components of the Class I groundwater ingestion exposure route.

2.3.1 Contaminant Source and Free Product Determination

As outlined in 35 IAC 742.305, prior to elimination of any pathways, certain minimum requirements must be evaluated and satisfied. These requirements are provided below and are followed by an explanation of how they apply to the Remediation Site.

- *The sum of the concentrations of all organic contaminants of concern shall not exceed the attenuation capacity of the soil as determined under Section 742.215 (Section 742.305(a));*

According to the supplemental soil testing results, the maximum potential sum of organic contaminants detected at the Remediation Site is 5.792 mg/kg [B6002 (10-12.5')], which is below the site-specific soil attenuation capacity value (8,100 mg/kg). Thus, there is no evidence of remaining soil attenuation capacity impacts, and this requirement is satisfied.

- *The concentrations of any organic contaminants of concern remaining in the soil shall not exceed the soil saturation limit as determined under Section 742.220 (Section 742.305(b)).*

Based on recent (2016 & 2019) soil testing results, one concentration of PCE remains above the site-specific soil saturation limit. Following successful remediation of the PCE impact at B6002 (10-12.5'), this requirement will be satisfied.

- *Any soil which contains contaminants of concern shall not exhibit characteristics of reactivity for hazardous waste (Section 742.305(c));*

Although no soil samples from the Remediation Site have been analyzed for reactivity, based on the source of the contamination (dry cleaning operations), there is no evidence that soils at the Remediation Site would exhibit the characteristics of reactivity.

- *Any soil which contains contaminants of concern shall not exhibit a pH less than or equal to 2.0 or greater than or equal to 12.5, as determined by SW-846 Method 9040B or SW-846 Method 9045C (Section 742.305(d)); and,*

Given the nature of the source of contamination, there is no evidence that soils at the Remediation Site would exhibit a pH less than or equal to 2.0 or greater than or equal to 12.5 standard units. Also, according to prior reports, one soil sample collected from the Remediation Site [B3400 (14-16)] was analyzed for pH and the analysis yielded a value of 7.71 standard units.

- *Any soil which contains contaminants of concern in the following list of inorganic chemicals or their salts shall not exhibit any of the characteristics of toxicity for hazardous waste as determined by 35 IAC 721.124: arsenic, barium, cadmium, chromium, lead, mercury, selenium or silver (Section 742.305(e)); and,*

Metals are not indicator contaminants for dry cleaning operations; therefore, there is no evidence that soils at the Remediation Site would exhibit the characteristics of RCRA 8 metals toxicity.

- *If contaminants of concern include polychlorinated biphenyls (PCBs), the concentration of any PCBs in the soil shall not exceed 50 parts per million (Section 742.305(f)).*

Polychlorinated biphenyls were not identified as contaminants of concern.

- *The concentration of any contaminant of concern in soil gas shall not exceed 10% of its Lower Explosive Limit (LEL) as measured by a hand held combustible gas indicator that has been calibrated to manufacturer specifications (Section 742.305(g));*

No contaminants have been identified at concentrations exceeding their lower explosive limits.

Based on the above evaluation, exclusion of the affected exposure routes will be allowable at the Remediation Site following successful remediation of the soil saturation limit impact at B6002.

2.3.2 Intent to Demonstrate Compliance With Pathway Exclusion Requirements

Pioneer notes that additional criteria must also be satisfied before specific exposure pathways can be formally excluded from consideration (i.e., (742.310, 742.312, 742.315, and 742.320).

Therefore, upon successful remediation of the soil saturation limit impact, an Interim Remedial Action Completion Report will be submitted to the Illinois EPA to document the remediation activities and confirmation sampling results, and demonstrate that the appropriate criteria for exclusion of the affected exposure routes will be satisfied. Specifically, it is anticipated that pathway exclusion will be pursued through the following engineering, preventive and institutional controls:

- providing a site safety plan to construction workers for intrusive work performed in impacted areas;
- installation and maintenance of engineered barriers to exclude the soil ingestion exposure route and possibly the outdoor inhalation exposure route, depending on the results of post-treatment soil gas sampling;
- installation, operation and maintenance of a vapor mitigation system for the proposed on-site structure;
- use of an existing municipal ordinance to prohibit any potable use of groundwater beneath the Remediation Site and off-site properties that may be affected by migration of contaminants; and
- notification of *potential* contaminant migration to any off-site property owners that *may* be affected as determined by fate and transport modeling calculations using RBCA Equation R26.

2.4 Summary

Soil and groundwater investigations at the Remediation Site identified various VOCs at concentrations exceeding the applicable Tier 1 SROs and GROs. Active remediation will be necessary to achieve the site-specific soil saturation limit for PCE in the area of soil boring B6002.

3.0 REMEDIAL ACTION PLAN

3.1 Introduction

As noted in the preceding sections of this combined Amended FSIR/ROR/RAP, site investigation activities performed at the Remediation Site identified various VOCs at concentrations above the applicable remediation objectives. The following table outlines the VOCs identified at concentrations exceeding the applicable Tier 1 SROs and GROs.

Table 3-1 Contaminants of Concern Exceeding Applicable Remediation Objectives

Applicable Exposure Route		Identified COC
Soil Ingestion:	Residential	(12DCP), PCE, TCE, VC
	Construction Worker	PCE ⁽¹⁾
Outdoor Inhalation:	Residential	(12DCP), (B), PCE, TCE, VC ⁽²⁾
	Construction Worker	(11DCE), (1,2DCP), (B), (CD), PCE, TCE, VC, (X) ⁽²⁾
Indoor Inhalation:	Residential	PCE, TCE, VC ⁽²⁾
Soil Component of Class I Groundwater Ingestion		(11DCE), (12DCP), (A), (B), (cDCE), (EB), PCE, (T), TCE, tDCE, VC
Class I Groundwater Ingestion		11DCE, cDCE, PCE, tDCE, TCE, VC
Soil Saturation Limit		PCE ⁽¹⁾

Notes: () Contaminant listed in parenthesis indicates an elevated detection limit, not a confirmed concentration

(1) Remediation will result in the removal of this impact

(2) Post-remediation testing will be used to verify residual impacts

112TCA = 1,1,2-trichloroethane

B = benzene

cDCE = cis-1,2-dichloroethene

MC = methylene chloride

PCE = tetrachloroethene (perchloroethylene)

tDCE = trans-1,2-dichloroethene

TCE = trichloroethene

VC = vinyl chloride

X = xylenes

Since active remediation will be required to achieve the site-specific soil saturation limit for PCE, a Remedial Action Plan (RAP) has been prepared to describe the proposed remedy and evaluate its ability and effectiveness to achieve the applicable remediation objectives. This section of this combined report constitutes the RAP.

3.2 Current & Post-Remediation Land Uses

The commercial improvements at the Remediation Site were demolished in late 2019, and the Remediation Site is currently vacant land.

The Remediation Site is scheduled for redevelopment with a five-story, mixed-use structure that will contain commercial/retail units and parking garage space on the first floor, residential units and parking garage space

on the second floor, and residential units on the third, fourth and fifth floors. A preliminary redevelopment plan is provided as Figure 2.

3.3 Remedial Technology Selection

In-situ remediation is necessary to achieve the site-specific soil saturation limit for PCE on a portion of the Remediation Site. Based on the identified contaminant concentrations and depth of the impacted interval (10 to 12.5 feet below surface grade), the treatment technology selected for this project is in-situ chemical oxidation (ISCO) using a sodium permanganate treatment solution, which will be applied to the Remediation Site using direct push injection techniques. Remediation with ISCO is recommended over an enhanced reductive dechlorination process due to the high PCE concentration at B6002, relative to the site-specific soil saturation limit, and the extended length of time that in-situ chemical reduction requires prior to confirmation sampling (typically at least 180 days).

The proposed treatment zone surrounds the PCE impact identified in B6002, and includes an approximate 1,200-square-foot area on the east-central portion of the site (see Figure 3). Note that prior to conducting the ISCO treatment, delineation soil borings will be advanced along the east and south sides of the proposed treatment zone to confirm the lateral extent of the soil saturation limit impact. Proposed delineation soil sampling locations are shown on Figure 3. One to two soil samples will be collected for analysis of VOC from each boring, including the interval that displays the highest PID reading and the 10-12.5-foot interval if the highest PID reading is identified within another interval.

The following bullet items summarize the proposed activities.

- Pioneer will prepare and submit a Class V Injection Well Inventory Form to the Illinois EPA's Bureau of Land.
- The treatment zone will consist of an approximate 1,200-square-foot area that will be treated from approximately 9 to 12.5 feet below surface grade. A total of 24 injection points are proposed (see the attached Figure 3). It is anticipated that the injection activities will achieve an approximate 4-foot radius around each injection point.
- Sodium permanganate will be supplied by Carus Corporation, and Pioneer will prepare the treatment solution on site using tap water obtained from the local municipality, and the treatment solution will be applied using a GeoProbe with drilling services provided by Pioneer.
- The treatment solution will be injected in 1-foot lifts, but may be adjusted based on field observations during the injection process, and the completed injection points will be filled with bentonite crumbles.
- The injection fieldwork is estimated to take four days to complete, and will result in the application of approximately 3,472 gallons of treatment solution, with approximately 145 gallons per injection point.
- Confirmation sampling will be performed within two weeks following completion of the application activities. Confirmation samples will be collected from four soil borings within the treatment zone.

Proposed confirmation soil and soil gas sampling locations are shown on Figure 3, and the proposed confirmation sampling activities are further discussed in the following Section 3.4.

- Upon receipt of the analytical results, Pioneer will prepare a report that outlines the remedial action activities and results of confirmation sampling, and provides a comparison of the COC concentrations to the applicable remediation objectives. If the confirmation sampling results indicate that the remediation objectives have been achieved, the report will also contain the required components of a Interim Remedial Action Completion Report to demonstrate that the requirements for exclusion of the affected exposure routes will be achieved as part of site redevelopment.

The following table presents the estimated timeframe to perform the proposed activities.

Table 3-2 Projected Timeframe to Complete the Proposed ISCO Treatment

Proposed Task	Estimated Timeline
Perform injection of ISCO treatment solution	April 2020
Perform confirmation sampling	April 2020
Prepare/submit an Interim Remedial Action Completion Report (assuming favorable results)	June 2020
As needed, install engineered barriers and a BCT	November 2020 (estimated; dependent upon construction schedule)
Prepare and submit the Final Remedial Action Completion Report	December 2020 (estimated; dependent upon completion of barrier and BCT installations)

The proposed ISCO treatment is a proven technology and can be feasibly implemented at this site. However, the ability of this technology to achieve the remediation objectives will depend on the dispersion of the oxidant solution through the subsurface. For purposes of this RAP, it is assumed that one application of treatment solution will be sufficient. If, however, the proposed confirmation sampling activities determine that the site-specific soil saturation limit has not been met, the results will be evaluated to determine the need for an application of additional treatment solution, or the potential for continuing contaminant degradation.

3.4 Proposed Post-Treatment Confirmation Sampling Plan

Pioneer is proposing to evaluate the effectiveness of the sodium permanganate treatment with one post-treatment sampling event as discussed below.

- The confirmation sampling event will be conducted within two weeks of completing the injection activities, and will include the advancement of four soil borings placed on a grid pattern within the treatment zone (see Figure 3).
- Confirmation soil borings will be advanced using a truck or track-mounted GeoProbe unit, and soil samples will be retrieved using a dual tube barrel sampler, logged according to their predominant geological characteristics, prepared for possible analysis, and field screened using a MiniRAE hand-held PID.

- Three soil samples from each soil boring will be selected for laboratory analysis; the samples will be selected from appropriate intervals based on PID readings and the impacts previously identified at B6002, and are expected to include sampling of the 7.5-10, 10 to 12.5 and 12.5 to 15-foot intervals. All confirmation samples will be submitted to independent, NELAC-certified laboratories for analysis of VOCs.
- The post-remediation sampling will be also include the collection six soil gas samples throughout the Remediation Site to evaluate areas where VOCs were identified above the Tier 1 SROs for the outdoor inhalation exposure route, and to further evaluate the indoor inhalation exposure route in areas where no groundwater samples were previously collected. The proposed soil gas sampling locations are depicted on Figure 3. All soil gas samples will be collected in accordance with Pioneer's standard sampling protocol as presented in Appendix C.

3.5 Proposed Post-Treatment Reporting Activities

Upon receipt of the analytical results from the laboratory, Pioneer will evaluate the data and a prepare a confirmation sampling summary report for submittal to the Illinois EPA.

If the analytical results indicate that the site-specific soil saturation limit has been achieved, Pioneer will instead prepare an Interim Remedial Action Completion Report to summarize the remedial actions, present fate and transport modeling calculations, and outline the approach for addressing residual contaminants through exclusion of applicable exposure routes using engineering, preventative and institutional controls, and a Final Remedial Action Completion Report will be submitted upon completion of the installation of any required engineered barriers and building control technologies.

3.6 Statement of Intent to Remove Any USTs Discovered During Redevelopment

The Remediation Applicant is aware that a portion of the site was historically occupied by a gasoline station, and that orphaned USTs may be discovered at the time of site redevelopment. Any USTs discovered on site will be removed in accordance with applicable regulations, and appropriate sampling will be conducted to evaluate the potential impacts to the Remediation Site.

3.7 Conclusions

Active remediation is required to address a site-specific soil saturation limit for PCE. As such, Pioneer requests approval of the proposed site-specific soil saturation limit, and the proposed in-situ remediation and post-treatment sampling activities.

4.0 CLOSING REMARKS

This report has been prepared for the use of the client (Remediation Applicant) identified in the report, and for evaluation by the Illinois EPA, and can not be relied upon by other persons or entities without the permission of Pioneer Engineering & Environmental Services, LLC (Pioneer). The observations and conclusions contained herein are limited by the scope and intent of the work mutually agreed upon by the Client and Pioneer and the work actually performed. There are no warranties, implied or expressed, concerning the environmental integrity of areas and/or mediums not analytically tested.

5.0 REFERENCES

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Figure 1 Sampling Locations Diagram

Figure 2 Preliminary Redevelopment Plan

Figure 3 Proposed Remediation Area & Delineation/Confirmation Sampling Locations

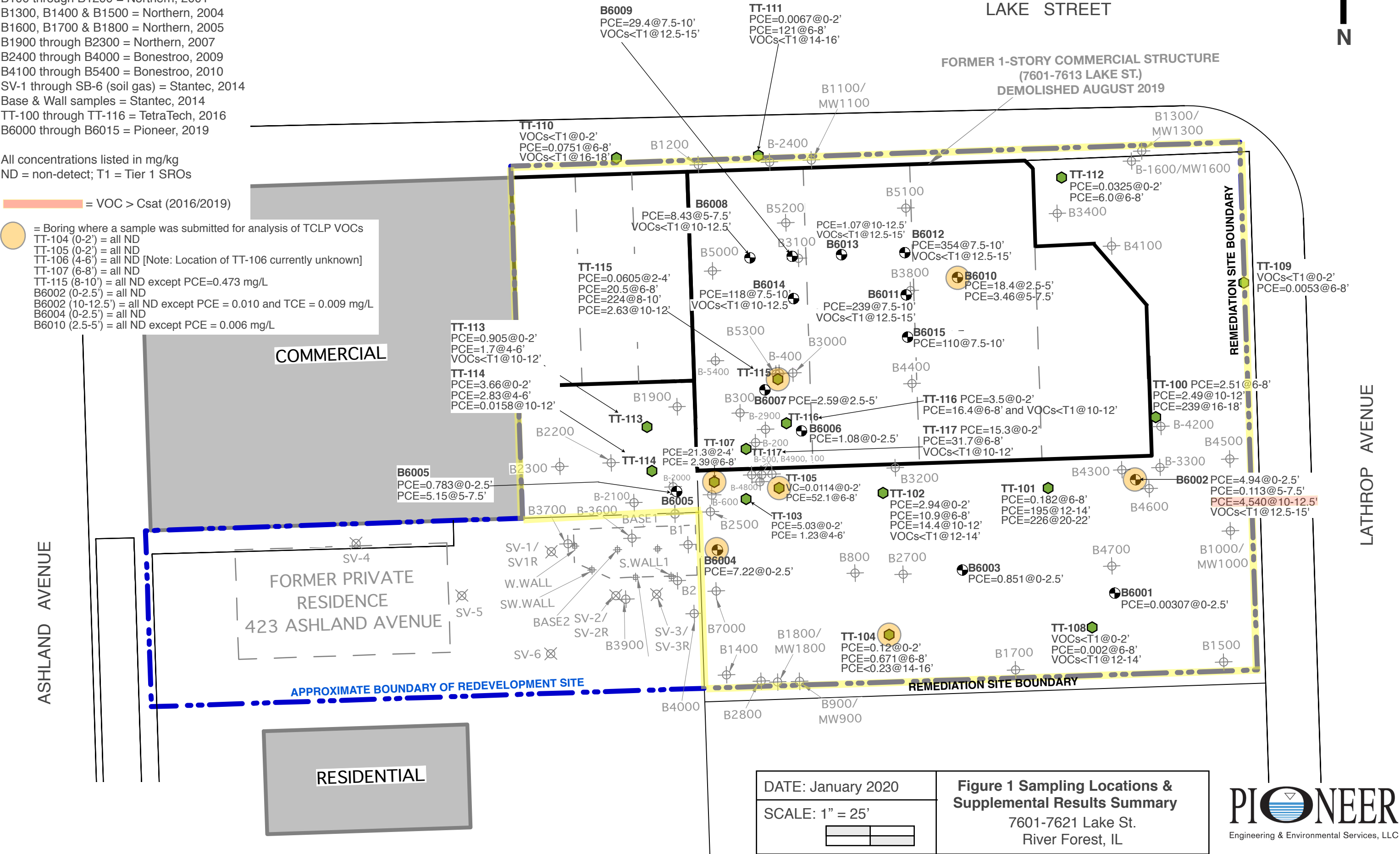
NOTES:

B-1, B-2 & B-3 = EPS, 1998
B100 through B1200 = Northern, 2001
B1300, B1400 & B1500 = Northern, 2004
B1600, B1700 & B1800 = Northern, 2005
B1900 through B2300 = Northern, 2007
B2400 through B4000 = Bonestroo, 2009
B4100 through B5400 = Bonestroo, 2010
SV-1 through SB-6 (soil gas) = Stantec, 2014
Base & Wall samples = Stantec, 2014
TT-100 through TT-116 = TetraTech, 2016
B6000 through B6015 = Pioneer, 2019

All concentrations listed in mg/kg
ND = non-detect; T1 = Tier 1 SROs

Orange line = VOC > Csat (2016/2019)

Yellow circle = Boring where a sample was submitted for analysis of TCLP VOCs
TT-104 (0-2') = all ND
TT-105 (0-2') = all ND
TT-106 (4-6') = all ND [Note: Location of TT-106 currently unknown]
TT-107 (6-8') = all ND
TT-115 (8-10') = all ND except PCE=0.473 mg/L
B6002 (0-2.5') = all ND
B6002 (10-12.5') = all ND except PCE = 0.010 and TCE = 0.009 mg/L
B6004 (0-2.5') = all ND
B6010 (2.5-5') = all ND except PCE = 0.006 mg/L



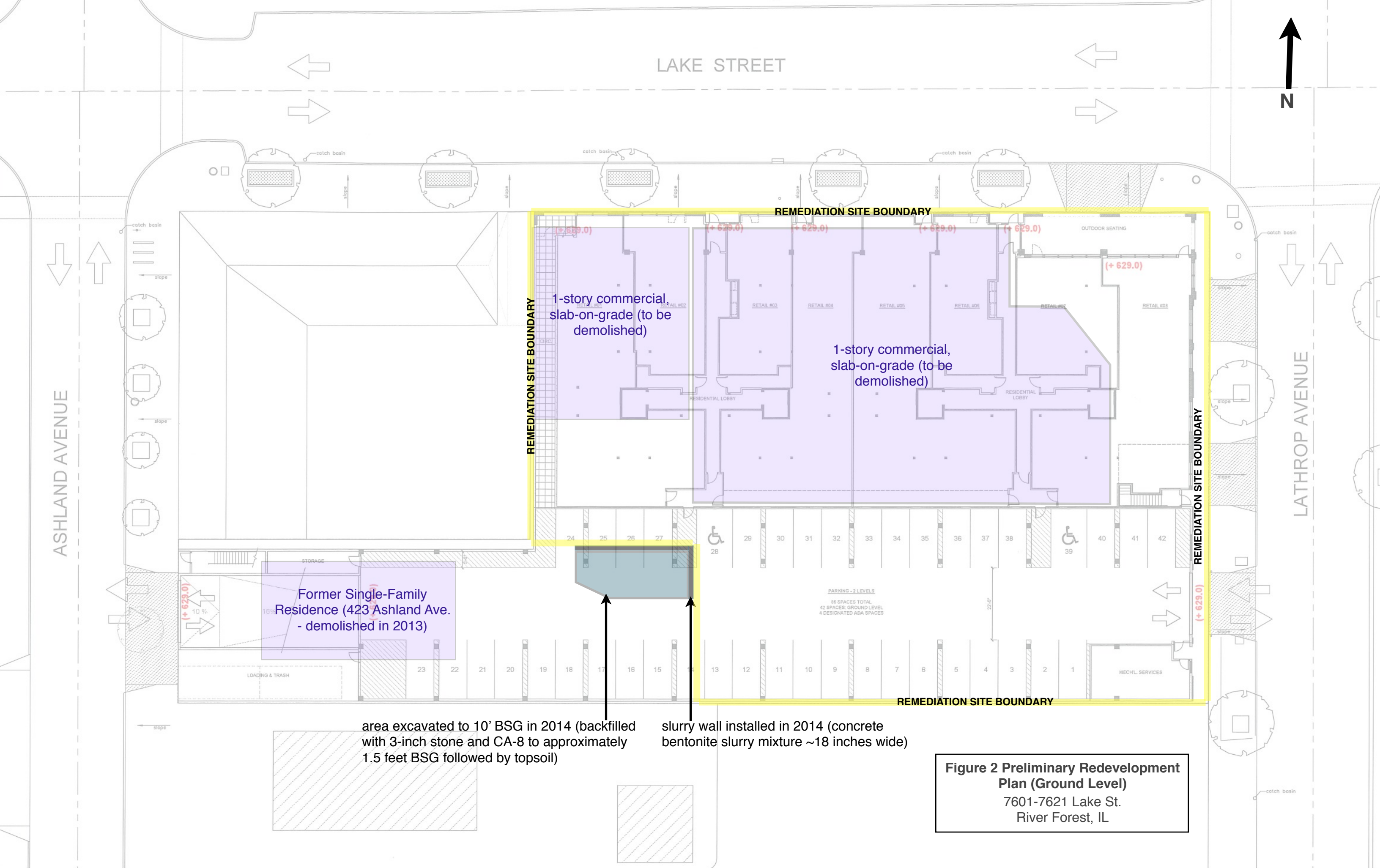


Figure 2 Preliminary Redevelopment Plan (Ground Level)
7601-7621 Lake St.
River Forest, IL

B-1, B-2 & B-3 = EPS, 1998
B100 through B1200 = Northern, 2001
B1300, B1400 & B1500 = Northern, 2004
B1600, B1700 & B1800 = Northern, 2005
B1900 through B2300 = Northern, 2007
B2400 through B4000 = Bonestroo, 2009
B4100 through B5400 = Bonestroo, 2010
SV-1 through SB-6 (soil gas) = Stantec, 2014
Base & Wall samples = Stantec, 2014
TT-100 through TT-116 = TetraTech, 2016
B6000 through B6015 = Pioneer, 2019

 = VOC > Csat (2016/2019)

- COMMERCIAL

FORMER PRIVATE
RESIDENCE
423 ASHLAND AVENUE

RESIDENTIAL

**FORMER 1-STORY COMMERCIAL STRUCTURE
(7601-7613 LAKE ST.)
DEMOLISHED AUGUST 2019**

N

LATHROP AVENUE

SCALE: 1" = 25'

7601-7621 Lake St.
River Forest, IL

PIONEER
Engineering & Environmental Services, LLC

Table 1 Supplemental Soil Sample Analytical Results: VOCs

Table 2 Supplemental Groundwater Sample Analytical Results: VOCs

TABLE NO. 1 (1 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL													Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
													Residential		Construction Worker		Migration to Groundwater		
Sample ID (Interval)	TT-100 (6-8)	TT-100 (10-12)	TT-100 (16-18)	TT-101 (6-8)	TT-101 (12-14)	TT-101 (20-22)	TT-102 (0-2)	TT-102 (6-8)	TT-102 (10-12)	TT-102 (12-14)	TT-103 (0-2)	TT-103 (4-6)	Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Collection Date	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16	2/17/16							
1,1,1-Trichloroethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<1.1	<0.940	<10.0	<0.020	<5.80	<5.90	<1.40	<1.00	<1.10	<0.020	<1.60	<1.10	--	--	--	--	--	--	25,000
2-Hexanone	<1.1	<0.940	<10.0	<0.010	<5.80	<5.90	<1.40	<1.00	<1.10	<0.0099	<1.60	<1.10	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<0.530	<0.470	<5.10	<0.0050	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	--	--	--	--	--	--	--
Acetone	<1.1	<0.940	<10.0	<0.010	<5.80	<5.90	<1.40	<1.00	<1.10	<0.0099	<1.60	<1.10	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.053	<0.047	<0.510	0.0059	<0.290	<0.300	<0.068	<0.050	<0.056	<0.00049	<0.079	<0.054	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.530	<0.470	<5.10	<0.0050	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.530	<0.470	<5.10	<0.0050	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	--	--	--	--	--	--	--
Chloroform	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.530	<0.470	<5.10	<0.0050	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.210	4.46	6.92	<0.0020	1.39	8.23	4.84	<0.200	<0.220	<0.0020	9.36	<0.220	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.210	<0.190	<2.00	0.0026	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	--	--	--	--	--	--	--	--	--	--	--	--	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.530	<0.470	<5.10	<0.0050	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	2.51	2.49	239	0.327	195	226	2.94	10.9	14.4	<0.0020	5.03	1.23	12	11	2,400	28	0.06	0.3	310
Toluene	<0.530	<0.470	<5.10	0.0095	<2.90	<3.00	<0.680	<0.500	<0.560	<0.0049	<0.790	<0.540	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.210	<0.190	<2.00	0.0054	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	<0.310	<0.220	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.210	<0.190	<2.00	<0.0020	<1.20	<1.20	0.330	<0.200	<0.220	<0.0020	2.35	<0.220	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	0.267	0.420	18.7	0.0063	6.16	10.2	0.510	<0.200	0.275	<0.0020	3.49	<0.220	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.210	0.264	<2.00	<0.0020	<1.20	<1.20	<0.270	<0.200	<0.220	<0.0020	3.94	<0.220	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)

Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO

Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 1 (2 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL													Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
													Residential		Construction Worker		Migration to Groundwater		
																	Class I	Class II	
Sample ID (Interval)	TT-104 (0-2)	TT-104 (6-8)	TT-104 (14-16)	TT-105 (0-2)	TT-105 (6-8)	TT-106 (2-4)	TT-106 (4-6)	TT-107 (2-4)	TT-107 (6-8)	TT-108 (0-2)	TT-108 (6-8)	TT-108 (12-14)	Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Collection Date	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16	2/18/16							
1,1,1-Trichloroethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<0.025	<0.970	<1.20	<0.025	<1.90	<1.40	<1.10	<1.20	<1.00	<0.024	<0.020	<0.020	--	--	--	--	--	--	25,000
2-Hexanone	<0.012	<0.970	<1.20	<0.012	<1.90	<1.40	<1.10	<1.20	<1.00	<0.012	<0.0099	<0.0098	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<0.0062	<0.480	<0.590	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	<0.0060	<0.0050	<0.0049	--	--	--	--	--	--	--
Acetone	0.045	<0.970	<1.20	0.0747	<1.90	<1.40	<1.10	<1.20	<1.00	0.154	<0.0099	<0.0098	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.00062	<0.048	<0.059	<0.00062	<0.095	<0.071	<0.054	<0.061	<0.052	0.0015	0.0043	0.00067	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.0062	<0.480	<0.590	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	0.0099	<0.0050	<0.0049	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.0062	<0.480	<0.590	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	<0.0060	<0.0050	<0.0049	--	--	--	--	--	--	--
Chloroform	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.0062	<0.480	<0.590	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	<0.0060	<0.0050	<0.0049	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.0025	<0.190	<0.230	0.0163	<0.380	0.712	<0.210	11.2	<0.210	<0.0024	<0.0020	<0.0020	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	--	--	--	--	--	--	--	--	--	--	--	--	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	<0.0020	<0.0020	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.0062	<0.480	<0.590	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	<0.0060	<0.0050	<0.0049	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	0.012	0.671	<0.230	<0.0025	52.1	2.78	0.870	21.3	2.39	<0.0024	0.0020	<0.0020	12	11	2,400	28	0.06	0.3	310
Toluene	<0.0062	<0.480	<0.059	<0.0062	<0.950	<0.710	<0.540	<0.610	<0.520	<0.0060	0.0066	<0.0049	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.0025	<0.190	<0.230	<0.0025	<0.380	<0.290	<0.210	<0.240	<0.210	<0.0024	0.0041	<0.0020	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.0025	<0.190	<0.230	0.0087	<0.380	<0.290	<0.210	0.909	<0.210	<0.0024	<0.0020	<0.0020	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	0.0034	<0.190	<0.230	0.0034	0.579	0.892	<0.210	6.80	<0.210	<0.0024	<0.0020	<0.0020	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.0025	<0.190	<0.230	0.0114	<0.380	<0.290	<0.210	0.823	<0.210	<0.0024	<0.0020	<0.0020	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)

Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO

Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 1 (3 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL														Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
														Residential		Construction Worker		Migration to Groundwater		
														Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Sample ID (Interval)	TT-109 (0-2)	TT-109 (6-8)	TT-110 (0-2)	TT-110 (6-8)	TT-110 (16-18)	TT-111 (0-2)	TT-111 (6-8)	TT-111 (14-16)	TT-112 (0-2)	TT-112 (6-8)	TT-113 (0-2)	TT-113 (4-6)	TT-113 (10-12)							
Collection Date	2/18/16	2/18/16	2/19/16	2/19/16	2/19/16	2/19/16	2/19/16	2/19/16	2/19/16	2/19/16	2/22/16	2/22/16	2/22/16							
1,1,1-Trichloroethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	1.47	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<0.021	<0.020	<0.022	<0.019	<0.032	<0.022	<5.30	<0.018	<0.026	<1.10	<1.30	<1.00	<0.011	--	--	--	--	--	--	25,000
2-Hexanone	<0.010	<0.0099	<0.011	<0.0096	<0.016	<0.011	<5.30	<0.0088	<0.013	<1.10	<1.30	<1.00	<0.011	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	--	--	--	--	--	--	--
Acetone	0.0748	<0.0099	0.0557	<0.0096	<0.016	0.0396	<5.30	<0.0088	0.161	<1.10	<1.30	<1.00	0.013	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.00052	0.0034	<0.00054	0.0029	0.0030	<0.00055	<0.270	<0.00044	0.00072	<0.053	<0.065	<0.051	<0.00053	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	--	--	--	--	--	--	--
Chloroform	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	--	--	--	--	--	--	--	--	--	--	--	--	--	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	<0.0021	0.0053	0.0039	0.0751	0.0305	0.0103	121	<0.0018	0.134	6.0	0.905	1.7	<0.0021	12	11	2,400	28	0.06	0.3	310
Toluene	<0.0052	<0.0049	<0.0054	<0.0048	<0.0080	<0.0055	<2.70	<0.0044	<0.0066	<0.530	<0.650	<0.510	<0.0053	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.0021	0.0023	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	<0.0021	<0.0020	<0.0022	0.0021	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.0021	<0.0020	<0.0022	<0.0019	<0.0032	<0.0022	<1.10	<0.0018	<0.0026	<0.210	<0.260	<0.200	<0.0021	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)
Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)
Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO
Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO
" < " indicates not detected at stated detection limits
"--" indicates value not available
(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 1 (4 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL														Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
														Residential		Construction Worker		Migration to Groundwater		
														Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Sample ID (Interval)	TT-114 (0-2)	TT-114 (4-6)	TT-114 (10-12)	TT-115 (2-4)	TT-115 (6-8)	TT-115A (8-10)	TT-115A (10-12)	TT-116 (0-2)	TT-116 (6-8)	TT-116 (10-12)	TT-117 (0-2)	TT-117 (6-8)	TT-117 (10-12)							
Collection Date	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16	2/22/16							
1,1,1-Trichloroethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<1.30	<1.20	<0.0093	<0.010	<1.10	<10.0	<1.20	<1.30	<1.10	<0.0096	<1.40	<1.10	<0.0089	--	--	--	--	--	--	25,000
2-Hexanone	<1.30	<1.20	<0.0093	<0.010	<1.10	<10.0	<1.20	<1.30	<1.10	<0.0096	<1.40	<1.10	<0.0089	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.540	<0.0048	<0.710	<0.540	<0.0045	--	--	--	--	--	--	--
Acetone	<1.30	<1.20	0.0285	0.0113	<1.10	<10.0	<1.20	<1.30	<1.10	<0.0096	<1.40	<1.10	0.0118	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.067	<0.061	<0.00047	0.0029	<0.057	<0.500	<0.058	<0.065	<0.054	<0.00048	<0.071	<0.054	<0.00045	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.270	<0.240	<0.0018	<0.0019	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.540	<0.0048	<0.710	<0.540	<0.0045	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.540	<0.0048	<0.710	<0.540	<0.0045	--	--	--	--	--	--	--
Chloroform	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.540	<0.0048	<0.710	<0.540	<0.0045	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.270	<0.240	<0.0019	<0.0021	1.56	105	0.250	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	--	--	--	--	--	--	--	--	--	--	--	--	--	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.054	<0.0048	<0.710	<0.540	<0.0045	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	3.66	2.83	0.0158	0.0605	20.5	224	2.63	3.5	16.4	<0.0019	15.3	31.7	0.0054	12	11	2,400	28	0.06	0.3	310
Toluene	<0.670	<0.610	<0.0047	<0.0052	<0.570	<5.00	<0.580	<0.650	<0.054	<0.0048	<0.710	<0.540	<0.0045	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	<0.270	<0.240	<0.0019	<0.0021	1.28	28.9	<0.230	<0.260	<0.220	<0.0019	<0.280	0.548	<0.0018	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.270	<0.240	<0.0019	<0.0021	<0.230	<2.00	<0.230	<0.260	<0.220	<0.0019	<0.280	<0.220	<0.0018	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)

Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO

Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 1 (5 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL														Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
														Residential		Construction Worker		Migration to Groundwater		
Sample ID (Interval)	B6001 (0-2.5)	B6002 (0-2.5)	B6002 (5-7.5)	B6002 (10-12.5)	B6002 (12.5-15)	B6003 (0-2.5)	B6004 (0-2.5)	B6005 (0-2.5)	B6005 (5-7.5)	B6006 (0-2.5)	B6007 (2.5-5)	B6008 (5-7.5)	B6008 (10-12.5)	Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Collection Date	8/24/19	8/24/19	8/24/19	9/5/19	9/5/19	8/24/19	8/24/19	8/24/19	8/24/19	8/24/19	8/24/19	8/24/19	8/24/19							
1,1,1-Trichloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<0.00984	<0.819	<0.00868	<199	<0.00723	<0.0101	<0.571	<0.00928	<1.63	<0.626	<0.505	<0.623	<0.00789	--	--	--	--	--	--	25,000
2-Hexanone	<0.0246	<2.05	<0.0217	<499	<0.0181	<0.0253	<1.43	<0.0232	<4.07	<1.57	<1.26	<1.56	<0.0197	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<0.0246	<2.05	<0.0217	<499	<0.0181	<0.0253	<1.43	<0.0232	<4.07	<1.57	<1.26	<1.56	<0.0197	--	--	--	--	--	--	--
Acetone	<0.0246	<2.05	<0.0217	<499	<0.0181	<0.0253	<1.43	<0.0232	<4.07	<1.57	<1.26	<1.56	<0.0197	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.000246	<0.0205	<0.000868	<4.99	<0.000181	<0.000253	<0.0143	<0.000232	<0.0407	<0.0157	<0.0126	<0.0156	<0.000197	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0689	<0.0505	<0.0623	<0.000789	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.000984	<0.0819	<0.000868	<19.9	0.00130	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	--	--	--	--	--	--	--
Chloroform	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	0.00478	0.272	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.000984	<0.0819	0.00202	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<0.00492	<0.409	<0.00434	<99.7	<0.00361	<0.00506	<0.285	<0.00464	<0.815	<0.313	<0.253	<0.312	<0.00395	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	0.00307	4.94	0.113	4,540	0.0392	0.851	7.22	0.783	5.15	1.08	2.59	8.43	<0.00158	12	11	2,400	28	0.06	0.3	310
Toluene	<0.000984	<0.0819	0.00704	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	0.000931	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.00197	<0.164	0.0127	<39.9	<0.00145	<0.00202	<0.114	<0.00186	<0.326	<0.125	<0.101	<0.125	0.00215	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	0.00152	0.0610	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	<0.000984	0.143	0.00310	111	0.000897	0.0194	1.02	0.00153	<0.163	<0.0626	0.0607	<0.0623	<0.000789	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.000984	<0.0819	<0.000868	<19.9	<0.000723	<0.00101	<0.0571	<0.000928	<0.163	<0.0626	<0.0505	<0.0623	<0.000789	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)

Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO

Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 1 (6 of 6) Supplemental Soil Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, IL														Tier 1 Soil Remediation Objectives (Tier 1 SROs)						Most Stringent Soil Saturation Limit ⁽¹⁾ C _{sat}
														Residential		Construction Worker		Migration to Groundwater		
														Soil Ingestion	Outdoor Inhalation	Soil Ingestion	Inhalation	Class I	Class II	
Sample ID (Interval)	B6009 (7.5-10)	B6009 (12.5-15)	B6010 (2.5-5)	B6010 (5-7.5)	B6011 (7.5-10)	B6011 (12.5-15)	B6012 (7.5-10)	B6012 (12.5-15)	B6013 (10-12.5)	B6013 (12.5-15)	B6014 (7.5-10)	B6014 (10-12.5)	B6015 (7.5-10)							
Collection Date	8/24/19	8/24/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19	9/5/19							
1,1,1-Trichloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	--	1,200	--	1,200	2	9.6	670
1,1,2,2-Tetrachloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	--	--	--	--	--	--	--
1,1,2-Trichloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	310	1,800	8,200	1,800	0.02	0.3	1,300
1,1-Dichloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	7,800	1,300	200,000	130	23	110	1,400
1,1-Dichloroethene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	3,900	290	10,000	3.0	0.06	0.3	910
1,2-Dichloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	7	0.4	1,400	0.99	0.02	0.1	1,900
1,2-Dichloropropane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	9	15	1,800	0.50	0.03	0.15	870
2-Butanone (MEK)	<4.88	<0.00864	<2.14	<0.560	<22.0	<0.00854	<19.7	<0.00807	<0.446	<0.00813	<8.03	<0.0225	<10.6	--	--	--	--	--	--	25,000
2-Hexanone	<12.2	<0.0216	<5.36	<1.40	<55.0	<0.0214	<49.3	<0.0202	<1.11	<0.0203	<20.1	<0.0562	<26.5	--	--	--	--	--	--	--
4-Methyl-2-pentanone (MIBK)	<12.2	<0.0216	<5.36	<1.40	<55.0	<0.0214	<49.3	<0.0202	<1.11	<0.0203	<20.1	<0.0562	<26.5	--	--	--	--	--	--	--
Acetone	<12.2	<0.0216	<5.36	<1.40	<55.0	<0.0214	<49.3	<0.0202	<1.11	<0.0203	<20.1	<0.0562	<26.5	70,000	100,000	--	100,000	25	25	100,000
Benzene	<0.122	<0.000216	<0.0536	<0.0140	<0.550	<0.000214	<0.493	<0.000202	<0.0111	<0.000203	<0.201	<0.000562	<0.265	12	0.8	2,300	2.2	0.03	0.17	580
Bromodichloromethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	10	3,000	2,000	3,000	0.6	0.6	2,000
Bromoform	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	81	53	16,000	140	0.8	0.8	1,200
Bromomethane (Methyl Bromide)	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	110	10	1,000	3.9	0.2	1.2	3,100
Carbon Disulfide	<0.488	0.000942	<0.214	<0.0560	<2.20	0.00129	<1.97	0.00111	<0.0446	<0.000813	<0.803	0.00757	<1.06	7,800	720	20,000	9.0	32	160	520
Carbon Tetrachloride	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	5	0.3	410	0.9	0.07	0.33	560
Chlorobenzene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	1,600	130	4,100	1.3	1	6.5	290
Chloroethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	--	--	--	--	--	--	--
Chloroform	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	100	0.30	2,000	0.76	0.6	2.9	2,500
Chloromethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	780	1,200	20,000	1,200	0.4	1.1	1,000
1,3-Dichloropropene (cis + trans)	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	6.4	1.1	1,200	0.39	0.004	0.02	850
Dibromochloromethane	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	1,600	1,300	41,000	1,300	0.4	0.4	890
Ethylbenzene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	7,800	400	20,000	58	13	19	150
Methyl Tertiary-Butyl Ether	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	780	8,800	2,000	140	0.32	0.32	8,400
Methylene Chloride	<2.44	<0.00432	<1.07	<0.280	<11.0	<0.00427	<9.86	<0.00404	<0.223	<0.00407	<4.01	<0.0112	<5.30	85	13	12,000	34	0.02	0.2	2,500
Styrene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	16,000	1,500	41,000	430	4	18	260
Tetrachloroethene	29.4	0.0107	18.4	3.46	239	0.0239	354	0.00747	1.07	0.0108	118	0.0420	110	12	11	2,400	28	0.06	0.3	310
Toluene	<0.488	0.000985	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	16,000	650	410,000	42	12	29	290
Total Xylenes	<0.977	0.00258	<0.428	<0.112	<4.40	<0.00171	<3.94	<0.00161	<0.0892	<0.00163	<1.61	<0.0450	<2.12	16,000	320	41,000	5.6	150	150	110
trans-1,2-Dichloroethene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	1,600	3,100	41,000	3,100	0.7	3.4	2,100
Trichloroethene	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	58	5	1,200	12	0.06	0.3	650
Vinyl Chloride	<0.488	<0.000864	<0.214	<0.0560	<2.20	<0.000854	<1.97	<0.000807	<0.0446	<0.000813	<0.803	<0.00225	<1.06	0.46	0.28	170	1.1	0.01	0.07	2,600

Notes: Results listed in mg/kg (parts per million)

Tier 1 SROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Tables A & B)

Shaded/Bolded cell indicates value exceeds the most stringent Tier 1 SRO

Bolded/Italicized value indicates an elevated detection limit for a confirmed contaminant that exceeds the most stringent Tier 1 SRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

(1) Pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix A, Table A)

TABLE NO. 2 Groundwater Sample Analytical Results: VOCs 7601-7621 Lake Street / River Forest, Illinois														Tier 1 Groundwater Remediation Objectives (Tier 1 GROs)		
Sample ID	MW-100	MW-101	MW-102	MW-104	MW-108	MW-111	MW1000	MW1300	MW1800	MW900	MW1300	MW1600	MW1800	Class I	Class II	Indoor Inhalation - Residential
Collection Date	2/17/16	2/17/16	2/17/16	2/18/16	2/18/16	2/19/16	2/19/16	2/19/16	2/19/16	9/5/19	9/5/19	9/5/19	9/5/19			
1,1,1-Trichloroethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.2	1	1,000
1,1,2,2-Tetrachloroethane	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00100	<0.00100	<0.00100	<0.00100	0.00043 ⁽¹⁾	0.00043 ⁽¹⁾	--
1,1,2-Trichloroethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.005	0.05	4,400
1,1-Dichloroethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.7	3.5	180
1,1-Dichloroethene	0.0874	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.007	0.035	24
1,2-Dibromo-3-chloropropane	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	0.0002	0.002	0.00065
1,2-Dibromoethane	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	0.00005	0.0005	0.0035
1,2-Dichloroethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.005	0.025	0.054
1,2-Dichloropropane	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.040	<0.0020	<0.0020	<0.0020	<0.00100	<0.00100	<0.00100	<0.00100	0.005	0.025	0.12
p-Dioxane ⁽²⁾	--	--	--	--	--	--	--	--	--	<0.100	<0.100	<0.100	<0.100	0.00085 ⁽¹⁾	0.00085 ⁽¹⁾	2.9
2-Butanone (MEK) ⁽²⁾	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	<0.010	<0.0100	<0.0100	<0.0100	<0.0100	4.2 ⁽¹⁾	4.2 ⁽¹⁾	10,000
2-Hexanone	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	<0.010	<0.0250	<0.0250	<0.0250	<0.0250	0.035 ⁽¹⁾	0.035 ⁽¹⁾	--
4-Methyl-2-pentanone (MIBK)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.0250	<0.0250	<0.0250	<0.0250	--	--	--
Acetone	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.010	<0.010	<0.010	<0.0250	<0.0250	<0.0250	<0.0250	6.3	6.3	1,000,000
Benzene	0.0011	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00100	<0.00100	<0.00100	<0.00100	0.005	0.025	0.11
Bromodichloromethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.0002	0.0002	6,700
Bromoform	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.001	0.001	3.1
Bromomethane (Methyl Bromide)	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0020	<0.0020	<0.0020	<0.00100	<0.00100	<0.00100	<0.00100	0.0098	0.049	1.5
Carbon Disulfide	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.00100	<0.00100	<0.00100	<0.00100	0.7	3.5	67
Carbon Tetrachloride	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.005	0.025	0.02
Chlorobenzene	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.1	0.5	26
Chloroethane	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.040	<0.0020	<0.0020	<0.0020	<0.00100	<0.00100	<0.00100	<0.00100	--	--	--
Chloroform	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.0002	0.001	0.07
Chloromethane	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.040	<0.0020	<0.0020	<0.0020	<0.00100	0.00145	<0.00100	<0.00100	--	--	--
cis-1,2-Dichloroethene	5.63	0.0794	0.0023	<0.0010	<0.0010	<0.0020	0.173	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.07	0.2	3,500
1,3-Dichloropropene (cis + trans)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.001	0.005	0.14
Dibromochloromethane	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.14	0.14	2,600
Dichlorodifluoromethane ⁽²⁾	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	1.4 ⁽¹⁾	7 ⁽¹⁾	3
Ethylbenzene	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.7	1	0.37
Isopropylbenzene (Cumene) ⁽²⁾	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	0.7 ⁽¹⁾	3.5 ⁽¹⁾	2.7
Methyl Tertiary-Butyl Ether	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	0.07	0.07	1,900
Methylene Chloride	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0020	<0.0020	<0.0020	<0.00500	<0.00500	<0.00500	<0.00500	0.005	0.05	2.1
Naphthalene	--	--	--	--	--	--	--	--	--	<0.00200	<0.00200	<0.00200	<0.00200	0.14	0.22	0.075
n-Butanol	--	--	--	--	--	--	--	--	--	<0.100	<0.100	<0.100	<0.100	0.7	0.7	74,000
m&p-Xylene ⁽³⁾	--	--	--	--	--	--	--	--	--	<0.00200	<0.00200	<0.00200	<0.00200	--	--	38
o-Xylene	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	--	--	40
Styrene	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0050	<0.00100	<0.00100	<0.00100	<0.00100	0.1	0.5	310
Tetrachloroethene	2.14	0.303	0.0529	0.0013	<0.0010	<0.0020	0.125	<0.0010	0.0037	0.0132	<0.00100	<0.00100	0.00226	0.005	0.025	0.091
Toluene	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	1	2.5	530
Total Xylenes	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00200	<0.00200	<0.00200	<0.00200	10	10	30
trans-1,2-Dichloroethene	0.101	0.0020	<0.0010	<0.0010	<0.0010	<0.0020	0.0044	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.1	0.5	16
Trichloroethene	1.41	0.0427	0.0026	<0.0010	<0.0010	<0.0020	0.018	<0.0010	<0.0010	0.00369	<0.00100	<0.00100	<0.00100	0.005	0.025	0.34
Trichlorofluoromethane ⁽²⁾	--	--	--	--	--	--	--	--	--	<0.00100	<0.00100	<0.00100	<0.00100	2.1 ⁽¹⁾	10.5 ⁽¹⁾	26
Vinyl Acetate	--	--	--	--	--	--	--	--	--	<0.0250	<0.0250	<0.0250	<0.0250	7	7	160
Vinyl Chloride	0.948	0.0074	<0.0010	<0.0010	<0.0010	<0.0020	<0.0010	<0.0010	<0.0010	<0.00100	<0.00100	<0.00100	<0.00100	0.002	0.01	0.028

Notes: Results in mg/L (parts per million)

Shaded/Bolded cell indicates value exceeds the applicable Tier 1 GRO

"<" indicates not detected at stated detection limits

"--" indicates value not available

Class I and Class II GROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Table E)

Indoor Inhalation GROs pursuant to 35 IAC 742-Tiered Approach to Corrective Action Objectives (Appendix B, Table H, Diffusion & Advection)

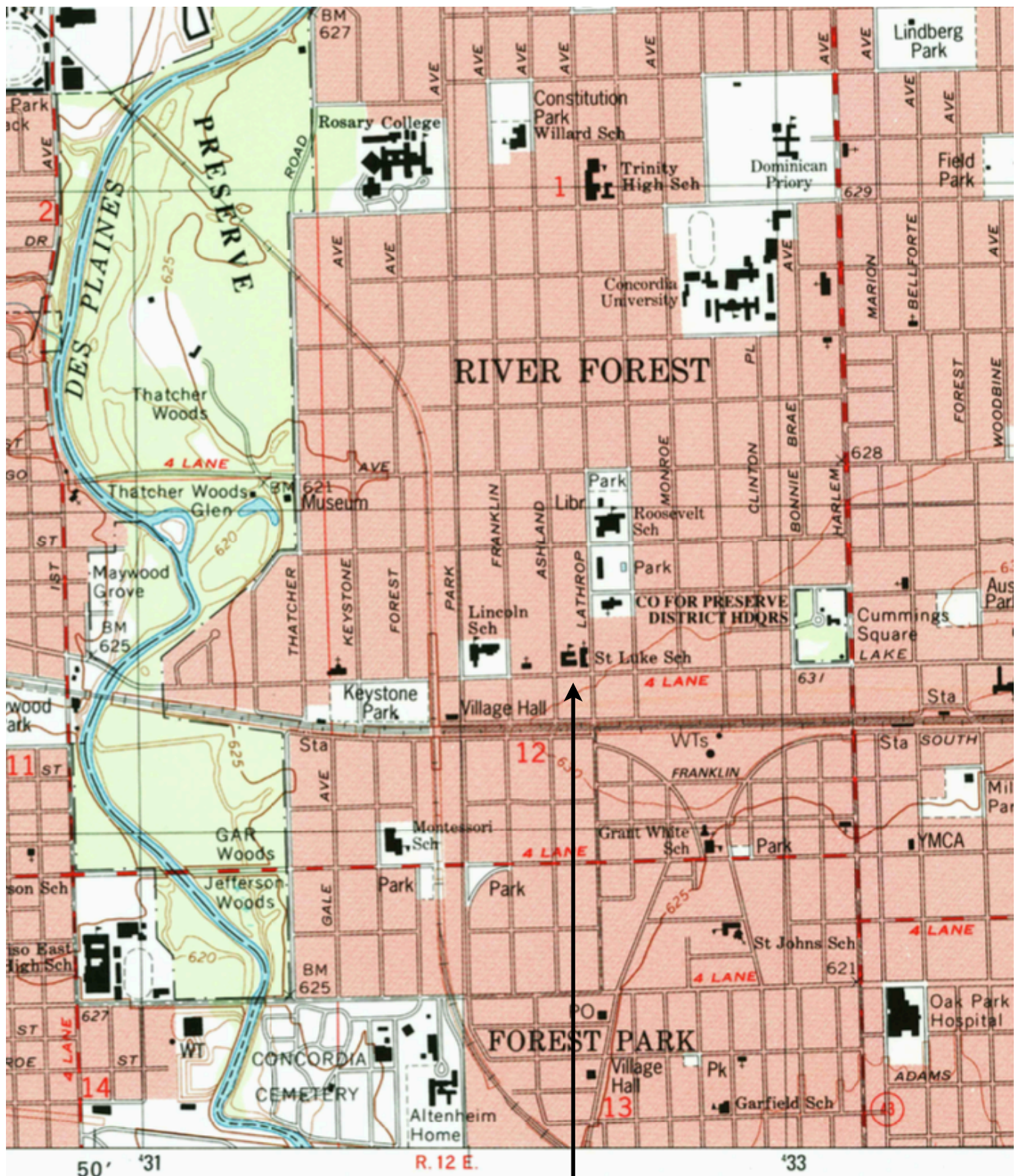
(1) GROs for Non-TACO chemicals provided by the Illinois EPA Toxicity Assessment Unit (October 24, 2018)

(2) Current TACO chemical for the indoor inhalation exposure route; Non-TACO chemical for the groundwater ingestion exposure route.

(3) The laboratory is currently unable to separate m- and p-xylenes, therefore the combined result is reported, and the more stringent GRO for m-xylene is provided for comparison.

Appendix A Figure 5 from the Revised FSI/ROR Addendum (November 2010)

Appendix B USGS Topographic Map, Aerial Photograph, Zoning Map and ISGS Maps



Remediation Site

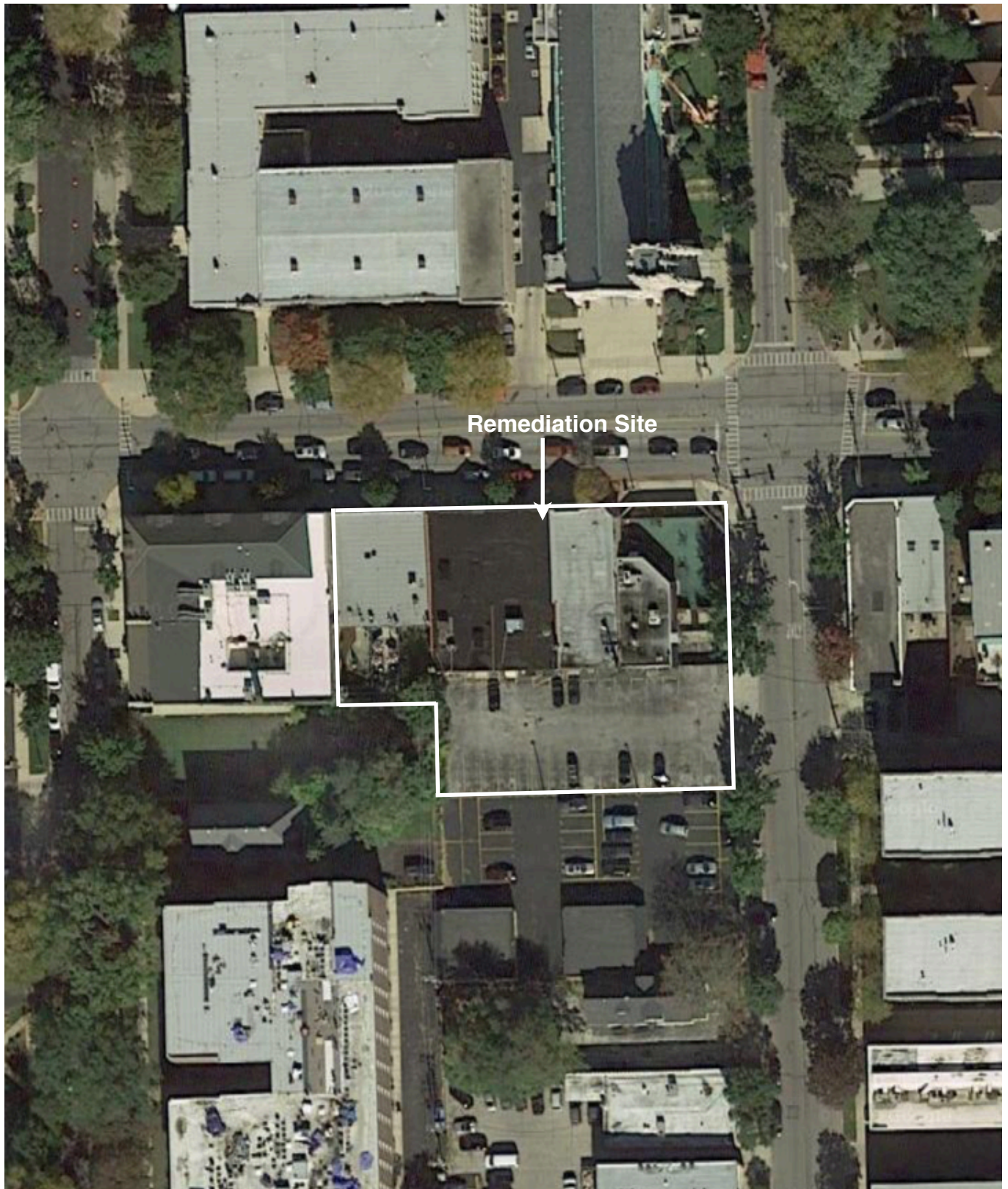
PIONEER

Engineering & Environmental Services, LLC

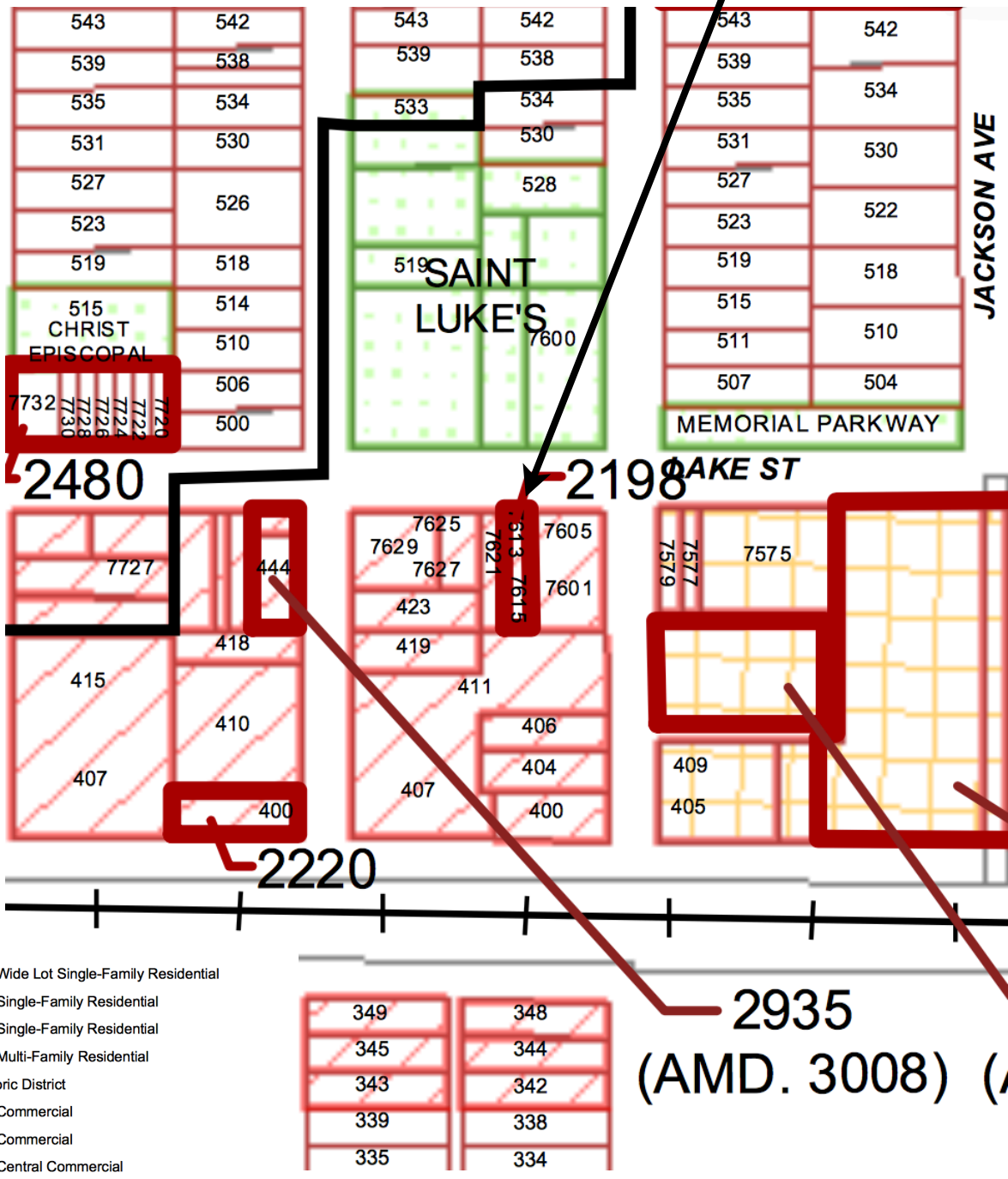
7601-7621 Lake Street
River Forest, Illinois

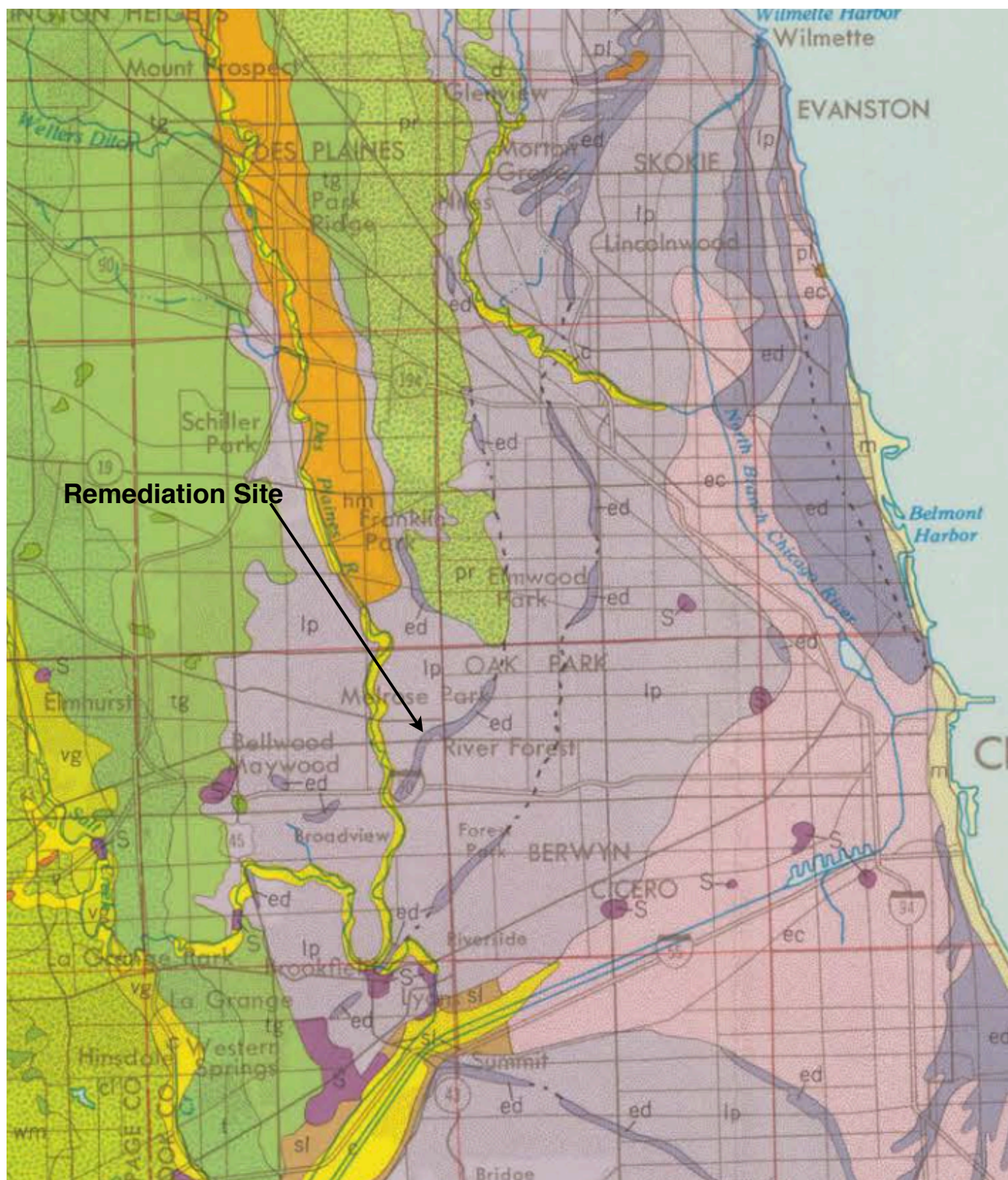
**USGS 7.5 Minute
Topographic Map (1997)**

The Remediation Site is located in Section 12, Township 29 North, Range 12, East (River Forest, IL Quadrangle)



Remediation Site





Remediation Site

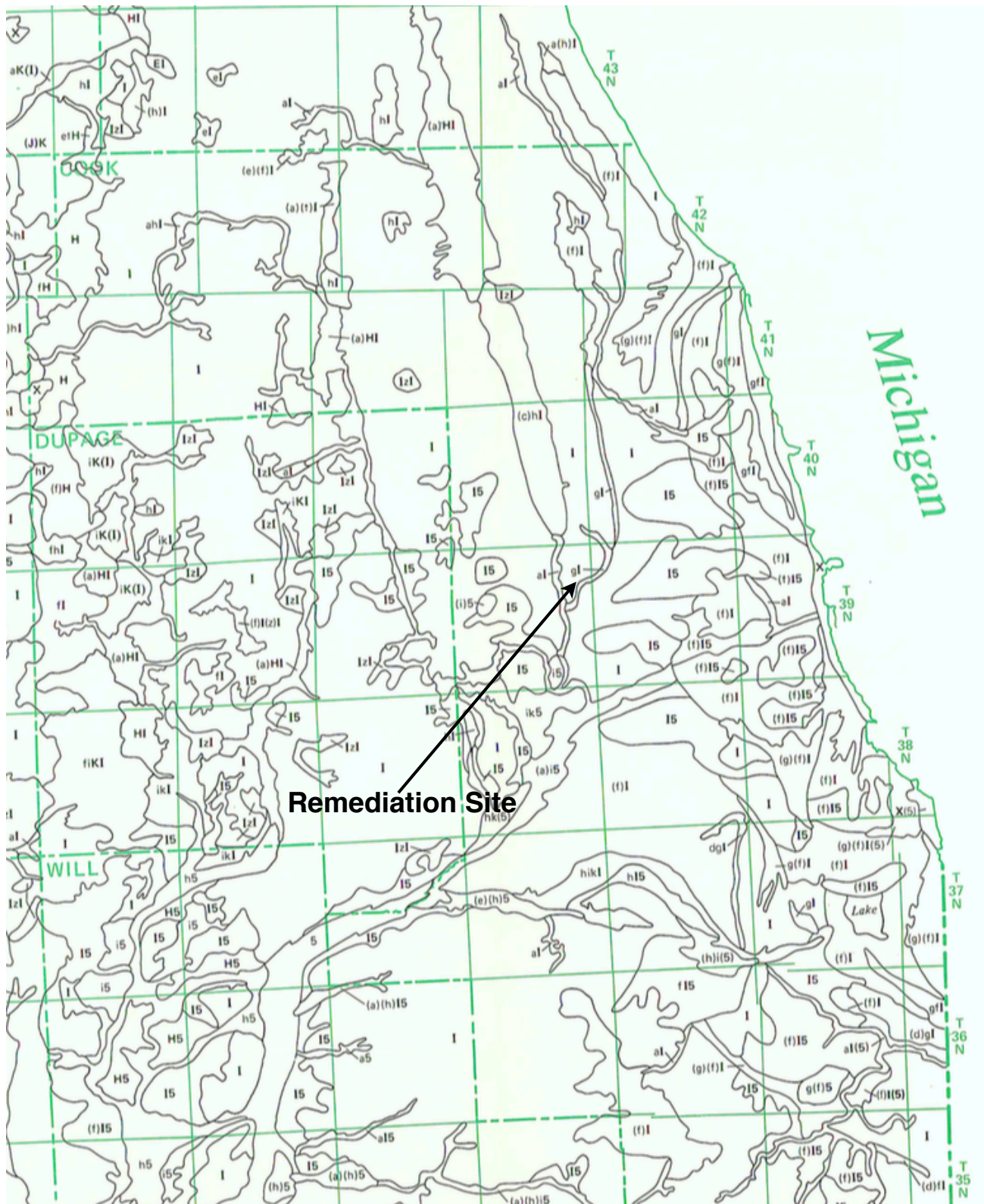
PIONEER

Engineering & Environmental Services, LLC

7601-7621 Lake Street
River Forest, Illinois

**ISGS Map - Surficial Geology
of the Chicago Region (1970)**

KEY: lp = Lake Plain (floors of glacial lakes flattened by wave erosion and minor deposition in low areas; largely underlain by glacial till; ed = Dolton Member of the Equality Formation (dominantly medium-grained sand)



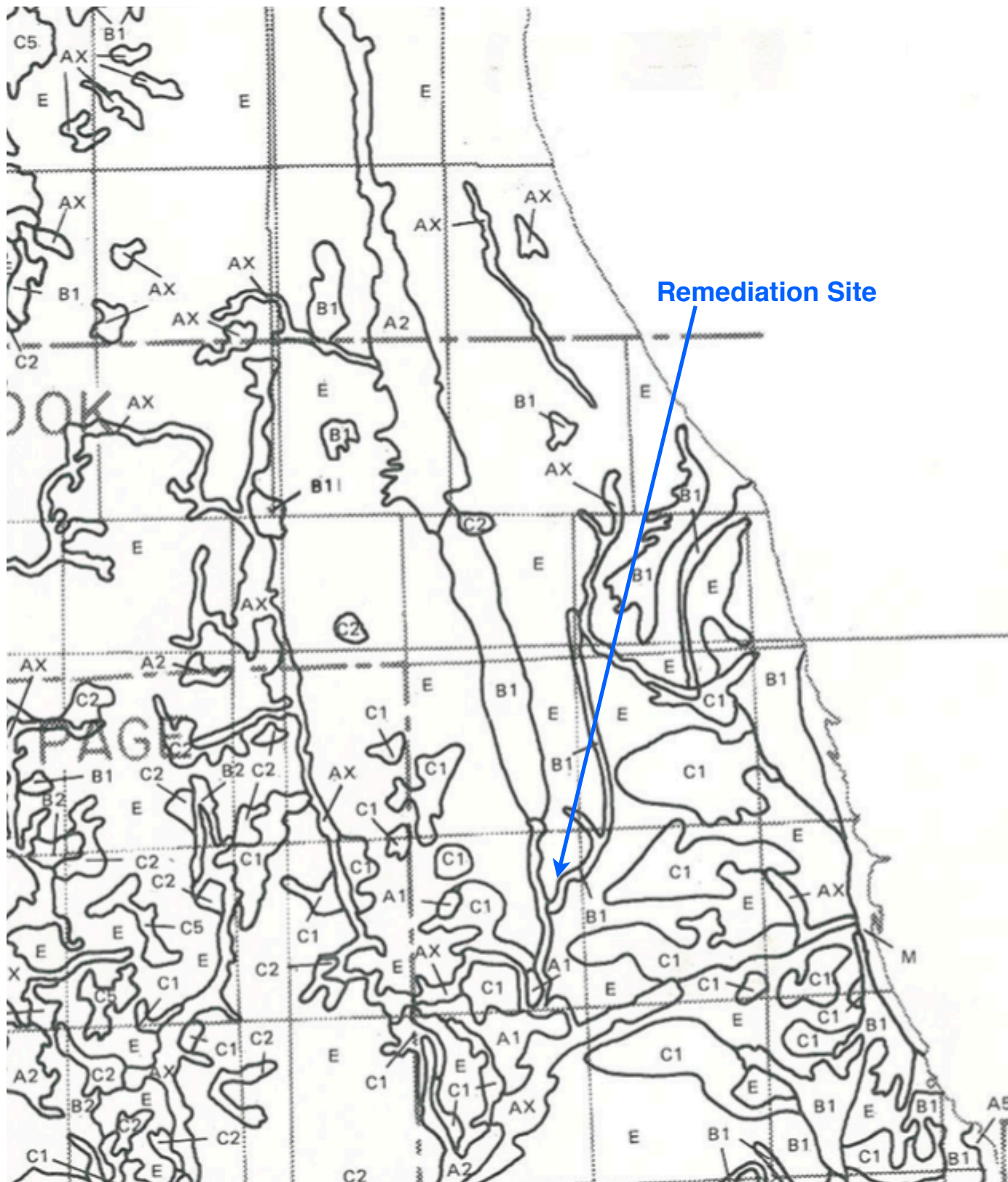
PIONEER

Engineering & Environmental Services, LLC

7601-7621 Lake Street
River Forest, Illinois

**IGS Stack-Unit Map of
Northern Illinois (1987)**

KEY: (f)I = discontinuous Carmi Member, Equality Formation (dominantly well bedded silt; <6m thick), over the Wedron Formation (silty/clayey till; >6m thick)



PIONEER

Engineering & Environmental Services, LLC

7601-7621 W. Lake St.
River Forest, Illinois

**Potential for Contamination of
Shallow Aquifers (1984)**

KEY: B1 = sand and gravel less than 20 feet thick overlying relatively impermeable till or bedrock
E = uniform, relatively impermeable silty or clayey till at least 50 feet thick; no evidence of interbedded sand and gravel

Appendix C Supplemental Soil Boring Logs, Monitoring Well Logs, Pioneer Sampling Protocols

BOREHOLE LOG

Installation:

CTO:

BORING ID: 11-100

MW ID:

DATE: 02-17-16

LOGGED BY: C. R. Smith

Page of

[illegible]

BOREHOLE LOG

CTO:

BORING ID: T-171

MW ID:

DATE:

LOGGED BY:

Page

of

[illegible]

BOREHOLE LOG

Installation:

CTO:

BORING ID: IT-102

MW ID:

DATE: 2-17-18

LOGGED BY:

C. Renter

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
	X	1242	60				6.9		0-2		0-1' - Asphalt Gravel					
							3.1		2-4		1-2' - Dark clay, hard / friable, transition into brown slightly gray clay.					
							2.3		4-6		2-3' - Clay sandy/silty, brown some grey, friable, some clayey sand layers					
	X						5.7		6-8		6-8' - Light grey brownish gravelly sand, coarse, poorly sorted					
							6.6		8-10		8-10' - Brown gravelly sand, coarse/semi-rounded, poorly sorted, medium grain - coarse, grey, clay, hard, malleable					
	X	1311					7.2		10-12		10-11' - Coarse sand, clayey sand, brown, poorly sorted, semi-rounded					
	X						1.3		12-14		11-11.5' - Sand transition to clay					
							5.9		14-16		11.5-12' - Clay, grey, malleable, hard					
		1327					4.5		16-18		12-13' - Coarse clayey sand, brown, poorly sorted semi-rounded CR					
							0.7		18-20		13-20' - Clay, grey, hard, malleable					
		1338					4.0		20-22		SAA					
							1.4		22-24		SAA					
							2.4		24-26		SAA					
		1342					1.6		26-28		25-27.5' - Wet, grey, medium-coarse grain, gravelly sand, poorly sorted					
							1.3		28-30		27.5-30' - Clay, grey, malleable, hard					
		1352					1.7		30-32.5		SAA					
											Water @ 25' below in impermeable clay layer					
											Temp well - 18' + 26'					

BOREHOLE LOG

Installation:

CTO:

BORING ID: TT-103

MW ID:

DATE: 2-17-14

LOGGED BY: *CR*

Page 2 of 2

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	1448	60					2.7		0-2	0-1'- Asphalt/gravel fill						
							1.4		2-4	1-2'- Black gravelly clay, Hard, dry, friable transition to brown clay						
X	1505	60					2.1		4-6	2-4'- Brown loam clay, soft, friable, trace gravel						
							1.3		6-8	4-7'- loam clay, 5% gravel, Brown/gray, Partly sorted, Semi - dry clay, Dry						
							2.2		8-16	7-10'- Clay, Gray, Hard, malleable						
	1516	60					1.5		10-12	↓	10-15'- SAA					
							1.2		12-14	↓						
	1525	60					1.5		14-16	↓	15-20' SAA					
							1.7		16-18	↓						
							0.7		18-20	↓						
	0746	60					1.5		20-22	↓	20-22'- SAA					
							1.6		22-24	↓	22-24'- Clayey sand w/ some gravel, brown, unstratified, poorly sorted, Angular					
	0807	60					1.1		24-26	↓	25-30'- Clay, dry, Hard, malleable, grey					
							1.2		26-28	↓						
							1.2		28-30	↓						
	1616	60					1.3		30-32.5	↓	SAA					

BOREHOLE LOG

Installation:

CTO:

BORING ID: TT-104

MW ID:

DATE: 2-18

LOGGED BY:

C. Jenner

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	0920	50					1.4		0-2		0-1.5 - Asphalt/Gravel Fill					
							1.1		2-4		1.5-2.5 - Black/Grey, Soft, clay, malleable, Silty					
							1.9		4-6		2.5-5 - Sandy, Silty clay, brown, soft, dry, malleable, friable					
	0925	40					1.6		6-8		5-6 - Clay transition to Sand					
X							1.4		8-10		6-9.5' - Brown, medium sand, graded w/ med. on top - coarse on bottom, trace gravel, poorly sorted on bottom					
	0930	38					1.2		10-12		9.5-10 - Clay, grey, malleable, dry, hard					
							1.1		12-14		10-18 - SAA					
X	1020	48					1.3		14-16		15-20' - Water @ 17', Clay, grey, malleable, hard above 17' & soft below 17'					
							1.4		16-18							
							1.6		18-20							
	1030	30					1.5		20-22		20-25 - Clay, Dry, Grey, Hard, malleable					
							1.0		22-24							
	1040	32					0.9		24-26		25-30 - Coarse gravel w/ some clay, Angular, poorly sorted, 1mm-3cm large					
							1.5		26-28							
							1.7		28-30							
											Temp. Well - 10' - 20'					

BOREHOLE LOG

Installation:

CTO:

BORING ID: 17-03

MW ID:

DATE: 2-15-11

LOGGED BY: *CH*

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in. in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	0850	50					2.3		0-2		0-1' - Asphalt / Gravel fill					
							1.5		2-4		1-3' - Black / Grey / Soft, malleable, clay, dry					
							2.9		4-6		3-5' - Sandy clay, Brown, friable, soft, dry					
X	0855	60					1.5		6-8		5-7' - Medium sand w/ trace of gravel, brown, poorly sorted, angular, dry					
							1.6		8-10		7-10' - Silty clay, hard, friable, grey, dry					
	0905	60					1.8		10-12		10-15' - Clay, Grey, malleable, hard, dry					
							1.1		12-14							
									14-15							

BOREHOLE LOG

Installation:

CTO:

BORING ID: 11-103

MW ID:

DATE:

LOGGED BY:

Page

of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
		0824	SC				2.3		0-2		0-1.5' - Asphalt/gravel fill					
	X						3.2		2-4		1.5-3.5' - Black, soft, malleable, clay, dry					
	X						7.7		4-6		3.5-5' - Brown, sandy clay, soft, friable dry					
	X	0838	32				3.6		6-8		5-8' - poorly sorted, medium sand & trace gravel, graded coarse-medium, brown angular					
							1.1		8-10		8-10' - Clay, malleable, hard, grey, dry					
		0845	66				.8		10-12		10-14.5' - S44					
							1.6		12-14		14.5-15' - Cement layer					
									14-16							
									16-18							

BOREHOLE LOG

CTO:

BORING ID: T1-107

MW ID:

DATE: 2-18

LOGGED BY: C. Rene

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Count/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
		1050	20				3.6		0-2		0-1' - Asphalt / Gravel Fill					
	X						3.6		2-4		1-3' - Black gravelly clay, soft, silty, malleable, dry					
							2.7		4-6		3-5' - No data due to poor recovery					
		1100	60				5.7		6-8		5-7' - Brown Sandy Silty Clay, soft, friable, malleable, dry					
	X						2.9		8-10		7-9' - Medium Sand, poorly sorted, Brown, some gravel, sub-angular					
							1.7		10-12		9-10' - Clay, hard, malleable, gray, dry					
		1105	60				1.5		12-14		10-15' - SAA					
									14-16							

BOREHOLE LOG

Installation:

CTO:

BORING ID: T1-104

MW ID:

DATE: 2-18
LOGGED BY: C. Remer

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in. in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	1116	56					30		0-2	G-11 - Asphalt / Gravel Lill						
							2.0		2-4	1-3' - Blch clay, Hard, Silty, friable trans. to brown clay						
							3.5		4-6	3-5' - Brown, Silty, Sandy silty clay, Dry, Malleable						
	1121	36					3.9		6-8	5-6' - SAA						
X							3.0		8-10	6-8' - Medium Sand, graded Coarse - Fine - Coarse, Some gravel, brown, sub-rounded						
							3.7		10-12	8-10' - Gravel w/ sand, silty clay, Grey/Brown Sub-angular						
	1127	EQ					3.9		12-14	10-15' - Clay, Grey, Silty spec. top to hard on bottom, malleable, dry						
X							2.5		14-16	15-16' - Gravel, poorly sorted, some clay & Silt, grey, sub-angular, wet						
	1135	60					3.0		16-18	16-18' - Clay, soft, malleable, wet, low silt						
							2.7		18-20	18-20' - Clay, High silt, Hard, friable, dry, grey						
	115	60					1.4		20-21	20-25' - Clay, semi-plastic, Hard, wet, grey, some silt						
							1.5		22-24							
							1.7		24-26							
	1200	60					1.8		26-28	25-30 - SAA						
							1.4		28-30							
											Temp well 10' to 20'					

BOREHOLE LOG

Installation:

CTO:

BORING ID: T-109

MW ID:

DATE: 2-18-6
LOGGED BY: C. Rene

Page of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	1301	50					0.9		0-2		0-0.5' - Asphalt 0.5-2' - Gravel Fill					
							0.7		2-4		2-4' - Brown/Grey Sandy Silty clay, Soft, plastic, Dry					
	↓	↓					1.6		4-6		4-5' - Silty Sand, medium grain, Well-Sorted, some gravel, Rounded					
X	1300	40					0.7		6-8		5-10' - SAA					
	↓	↓					1.3		8-10		↓					
	1317	60					1.7		10-12	Wet	10-11' - Sand transitions into a silty clay					
							1.8		12-14		11-14' - Silty clay, hard, friable, gray, high silt content, Dry					
	↓	↓					1.3		14-16		14-15' - Clay, low silt, Dry, Hard, Plastic					
	1326	36					0.7		16-18		15-16' - SAA					
	↓	↓					0.1		18-20		16-17' - Sand, medium grain, poorly sorted, sub rounded, some silt & clay					
	1332	50					1.3		20-22		18-20' - Clay, low silt, Dry, Semi-Hard, plastic, gray					
	↓	↓					1.7		22-24		20-25' - SAA					
	↓	↓					0.9		24-26		↓					
	1338	46					0.7		26-28		SAA					
	↓	↓					1.2		28-30		↓					

BOREHOLE LOG

Installation:

CTO:

BORING ID: 11-110

MW ID:

DATE: 2-19-16
LOGGED BY: Paul Pallardy

Page 1 of 1

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BOREHOLE LOG

Installation:

CTO:

BORING ID: TT-111

MW ID:

DATE: 2-14-16

LOGGED BY: pp

Page 1 of 1

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	0855	54					0.4		0-2		0-6" Concrete / gravel					
							0.9		2-4		6-1' br sandy silty clay w tr gr					
							1.5		4-6		1-4' br sandy silty cl w tr gr					
											4-8' br sandy cl w some gr well sorted					
X	0905						2.2		6-8		6-7.5' br well sorted med sand w some gr sub angular					
							1.4		8-10		7.5-8' transition to gr silty cl w tr gr somewhat malleable					
							0.5		10-12		8-10' gr silty cl w tr gr somewhat malleable					
							1.4		12-14		10-13' SAA					
											13-14' gr sandy cl w some gr somewhat moist					
X	0922	54					0.6		14-16		14-15' gr silty cl w tr gr somewhat malleable					
							0.3		16-18		15-15.5' transition to gr sandy cl w tr gr very moist					
							0.6		18-20		15.5-16.5' gr sandy cl w tr gr wet					
											16.5-20' gr silty cl w tr gr malleable					
	0932	60					0.4	20'	20-22		↑					
							1.2		22-24		SAA					
							0.5		24-26		↓					
	0940	60					0.6		26-28		↑					
											SAA					
							0.7		28-30		↓					
											Temp well installed to 20' 10' screen 12-20'					

BOREHOLE LOG

Installation:

CTO:

BORING ID: TT-112

MW ID:

DATE: 2-19-16

LOGGED BY: Paul Pallardy

Page / of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	0958	54					1.2		0-2		0-6" concrete / gravel fill					
											6"-1' dr br sandy silty cl w tr gr					
							1.0		2-4		1-2.5 grayish br sandy silty cl w tr gr					
											2.5-4.5' grayish br, br mottled sandy silty cl w tr gr					
							1.0		4-6		4.5-5' br well sorted med sand w some gr, sub angular					
X	1006	48					1.4		6-8		5-7.5' SAA					
							0.8		8-10		7.5-8' transition to gr sandy					
							2.0		10-12		8-10' silty cl w some gr					
							0.6		12-14		10-10.5' SAA					
							1.6		14-15		10.5-11' gr sandy cl w tr gr somewhat moist					
							2.1		16-18		11-15' gr silty cl w tr gr somewhat malleable					
							2.3		18-20		15-20 - SAA					
							2.4		20-22		20-25 - SAA					
							2.2		22-24							
							1.2		25-26		25-30 - SAA					
							1.4		26-28							
							1.0		28-30							

BOREHOLE LOG

CTO:

BORING ID:

DATE: 2-20-2016
LOGGED BY:

MW ID:

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Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	↓	1535	34				21		0-2		0-2- Organic Rich Soil, some silt, black unconsolidated					
	↓		↓				15		2-4		2-3- Sand, Silty clay, Spindle wood, Bark/Cork, 3-5'- Sand, Silty clay, Spindle wood, Bark/Cork					
X	↓	1440	34				1.1		4-6		Plastic 5-6' Medium sand w/ some gravelly poorly sorted, Spindle-woodly Bark					
	↓	1455	28				1.1		6-8		6-9- SAA					
	↓		↓				23		8-10		↓ 9-12- Clay, Semi-heavy plastic, grey, silty					
X	↓	1502	36				1.5		10-12		↓					

BOREHOLE LOG

Installation:

CTO:

BORING ID: 17-113/S 146r, MW ID:

DATE: 2-27-2016

LOGGED BY: *C.anner*

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Sampler Type	Sample Interval	Time	Recovered/Driven (in in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	1321	50					5.4		0-2'		0-1" - Top soil, organic rich 1"-1' - Clay, Silty, high organics, Silty, Plastic					
	1331	34					1.5		2-4'		1'-3' - Sandy Silty clay, brown/grey, soft plastic (sens)					
X	1345						1.8		4-6		3'-5' - SAA 5'-6' - Medium grain sand, Grated, medium					
	1405						0.9		6-8		- (also w/ some gravel, poorly sorted, Brown, Semi-Rounded					
	1415						1.1		8-10		6-8' - SAA 8-9' - Silty Clay, semi-plastic, grey, Semi-hard					
X	1415						0.8		10-12		9'-12' - SAA					
							0.5		12-14'		12-14' - SAA					

BOREHOLE LOG

Installation:

CTO:

BORING ID: 15-116

MW ID:

DATE: 2-22-2016

LOGGED BY:

C. Reilly

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[illegible]

$\times - 217$ low, due to concrete

BOREHOLE LOG

CTO:

BORING ID:

PT-115/115A

MW ID:

DATE: 2-22

LOGGED BY:

C. K. P. 112

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of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
		1635					X 4		0-2		Concrete					
	X	↓					X 1.4		2-4	2-5	Sandy Silty Clay, brown/gray, semi-hard, plastic					
		1640					X 1.1		4-6	5-6	Med. grain sand, some gravel, purple silted, brown, semi-rounded					
	X	↓					X 4.6		6-8	6-9	SAA					
	X	1845					/		8-10	9-12	Clay, semi-hard, grey, plastic					
	X	1900					/		10-12		Some Silt					
		↓					/		12-14		SAA					

 $\star - 2f1$ loss due to wiretap

$\pi\pi$ - Had to shift $\sim 2''$ over when the
Spion camp over in 115

BOREHOLE LOG

Installation:

CTO:

BORING ID: 11-117

MW ID:

DATE:

LOGGED BY:

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Page

of

Sampler Type	Sample Interval	Time	Recovered/Driven (in./in.)	Blow Counts/6 in.	Physical Analysis	Chemical Analysis	PID Reading (ppm)	Well Construction Info	Depth (feet bgs)	USCS Type/Designation	Soil Description	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt/Clay
X	1757	36					4.9		0-2		0-1'-0.3 in rich clay, silty, Black Soft					
	↓	↓					2.2		2-4		1-3'-Silty sandy clay, Brown, Soft plastic					
	1805	34					1.4		4-6		3-5'-SAA					
	↓	↓					2.2		6-8		5-6'-Sand, Medium grain, poorly sorted, some gravel, brown					
X	1810	34					1.8		8-10		6-8'-SAA					
	↓	↓									8-9', Clay, hard, Gray, plastic, Dry					
	1820	30							10-12		9-12'-SAA					
X	↓	↓									↓					



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6001

PAGE 1 OF 1

CLIENT	Lake Lathrop LLC	PROJECT NAME	Former River Forest Cleaners
PROJECT NUMBER	19-0338-101	PROJECT LOCATION	7601-7621 Lake Street, River Forest, IL
DATE STARTED	8/23/19	COMPLETED	8/23/19
DRILLING RIG	GeoProbe7822 DT	GROUND ELEVATION	
SAMPLING METHOD	Dual Tube	BOREHOLE DIAM.	2.25" Diam
LOGGED BY	J. Mizwicki	CHECKED BY	M. Wells-Paske
NOTES			
		GROUND WATER LEVELS:	
		AT TIME OF DRILLING	
		AT END OF DRILLING	
		AFTER DRILLING	

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
					0.3 Asphalt pavement	
					1.0 Sand and gravel fill, dense, moist	
	0-2.5	75	OL		Black clay/silty clay, medium stiff, moist (OL)	0
2.5					2.0 Brown clay/silty clay, medium stiff, moist (CL)	
		75	CL			0
5.0						

Bottom of borehole at 5.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6002

PAGE 1 OF 1

CLIENT Lake Lathrop LLC**PROJECT NAME** Former River Forest Cleaners**PROJECT NUMBER** 19-0338-101**PROJECT LOCATION** 7601-7621 Lake Street, River Forest, IL**DATE STARTED** 8/23/19**COMPLETED** 9/5/19**GROUND ELEVATION****BOREHOLE DIAM.** 2.25" Diam**DRILLING RIG** GeoProbe7822 DT**GROUND WATER LEVELS:****SAMPLING METHOD** Dual Tube**AT TIME OF DRILLING****LOGGED BY** J. Mizwicki**CHECKED BY** M. Wells-Paske**AT END OF DRILLING****NOTES** Boring drilled to 10' on 8/23/19, and to 15' on 9/5/19**AFTER DRILLING**

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION Stratification lines represent approximate boundaries; the transition may be gradual.	PID (ppm)
0.0						
0.3					Asphalt pavement	
	0-2.5	75			Sand and gravel fill, dense, moist	0
2.5						
		75	CL		Brown clay/silty clay, medium stiff, moist (CL)	0
5.0						
	5-7.5	50			Brown medium to fine-grained sand with some gravel, dense, moist (SP)	0
7.5						
		50	SP			0
10.0						
	10-12.5	75			Gray silty clay, very stiff, moist (CL)	214
12.5						
	12.5-15	75	CL		Gray silty clay, hard, moist (CL)	5
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6003

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION _____ BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Asphalt pavement	
1.0					Sand and gravel fill, dense, moist	
2.0					Black clay/silty clay, medium stiff, moist (OL)	0
2.5					Brown clay/silty clay, medium stiff, moist (CL)	
5.0						0

Bottom of borehole at 5.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6004

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION Stratification lines represent approximate boundaries; the transition may be gradual.	PID (ppm)
0.0						
					0.3 Asphalt pavement	
					1.0 Sand and gravel fill, dense, moist	
	0-2.5	75	OL		Black clay/silty clay, medium stiff, moist (OL)	0
2.5					2.0 Brown clay/silty clay, medium stiff, moist (CL)	
			CL			0
5.0						

Bottom of borehole at 5.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6005

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION Stratification lines represent approximate boundaries; the transition may be gradual.	PID (ppm)
0.0						
	0-2.5	75			Sand and gravel fill, dense, moist	0
2.5			OL		Black clay/silty clay, medium stiff, moist (OL)	
		75	CL		Brown clay/silty clay, medium stiff, moist (CL)	0
5.0						
	5-7.5	50			Brown medium to fine-grained sand with some gravel, dense, moist (SP)	2
7.5			SP			
		50				1
10.0						

Bottom of borehole at 10.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6006

PAGE 1 OF 1

CLIENT	Lake Lathrop LLC	PROJECT NAME	Former River Forest Cleaners
PROJECT NUMBER	19-0338-101	PROJECT LOCATION	7601-7621 Lake Street, River Forest, IL
DATE STARTED	8/23/19	COMPLETED	8/23/19
DRILLING RIG	GeoProbe7822 DT	GROUND ELEVATION	
SAMPLING METHOD	Dual Tube	BOREHOLE DIAM.	2.25" Diam
LOGGED BY	J. Mizwicki	CHECKED BY	M. Wells-Paske
NOTES			
		GROUND WATER LEVELS:	
		AT TIME OF DRILLING	
		AT END OF DRILLING	
		AFTER DRILLING	

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.2					Concrete floor slab	
0.8					Sand and gravel fill, dense, moist	
2.5	0-2.5	75			Brown clay/silty clay, medium stiff, moist (CL)	2
			CL			
5.0		75				0

Bottom of borehole at 5.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6007

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION _____ BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.1					Concrete floor slab	
0.4					Gravel fill (with some sand), dense, moist	
		75			Brown clay/silty clay, medium stiff, moist (CL)	0
2.5			CL			
	2.5-5	75				2
4.5						
5.0			SP		Brown medium to fine-grained sand, loose, moist (SP)	

Bottom of borehole at 5.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6008

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION Stratification lines represent approximate boundaries; the transition may be gradual.	PID (ppm)
0.0						
					0.1 Concrete floor slab	
					Gravel fill (with some sand), dense, moist	
		75			1.5	
			OL		Black clay/silty clay, stiff, moist (OL)	0
2.5						
					3.0	
		75	CL		Brown clay/silty clay, stiff, moist (CL)	0
5.0					5.0	
	5-7.5	50			Brown medium to fine-grained sand with some gravel, medium dense, moist (SP)	6
7.5			SP			
		50				6
10.0					10.0	
	10-12.5	100			Gray clay/silty clay, stiff, moist (CL)	0
12.5			CL			
		100				0
15.0					15.0	

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6009

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 8/23/19

COMPLETED 8/23/19

GROUND ELEVATION

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING

LOGGED BY J. Mizwicki

CHECKED BY M. Wells-Paske

AT END OF DRILLING

NOTES

AFTER DRILLING

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.1					Concrete floor slab	
0.4					Sand fill, dense, moist	
					Brown clay/silty clay, stiff, moist (CL)	
50						0
2.5			CL			
50						1
4.0					Brown medium to fine-grained sand with some gravel, dense, moist (SP)	
5.0						
50						5
7.5			SP			
7.5-10		50				7
10.0						
10.0					Gray clay/silty clay, very stiff, moist (CL)	
75						6
12.5			CL			
12.5-15		75				0
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6010

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
		50	CL		Brown silty clay, hard, moist (CL)	28
2.5						
	2.5-5	50				30
5.0						
	5-7.5	50	SP		Brown to gray medium to fine-grained sand, loose, moist (SP)	114
7.5						
		50				99
10.0						
		75	CL		Gray silty clay, very stiff, moist (CL)	4
12.5						
		75	CL		Gray silty clay, hard, moist (CL)	0
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6011

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
2.5		50	CL		Brown silty clay, hard, moist (CL)	17
4.0		50				18
5.0					Brown medium to fine-grained sand, loose, moist (SP)	
7.5		50	SP			102
7.5-10		50				132
10.0					Gray silty clay, very stiff, moist (CL)	
12.5		50	CL			42
12.5-15		50	CL		Gray silty clay, hard, moist (CL)	2
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6012

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
2.5		50	CL		Brown silty clay, hard, moist (CL)	11
4.0		50				14
5.0					Brown to gray medium to fine-grained sand, loose, moist (SP)	
7.5		50	SP			85
7.5-10		50				128
10.0					Gray silty clay, very stiff, moist (CL)	
12.5		75	CL			10
12.5-15		75	CL		Gray silty clay, hard, moist (CL)	0
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6013

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
2.5		50	CL		Brown silty clay, hard, moist (CL)	9
4.0		50				12
5.0					Brown to gray medium to fine-grained sand, loose, moist (SP)	
7.5		50	SP			51
9.0		50				57
10.0					Gray silty clay, very stiff, moist (CL)	
10-12.5		50	CL			128
12.5						
12.5-15		50	CL		Gray silty clay, hard, moist (CL)	4
15.0						

Bottom of borehole at 15.0 feet.



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6014

PAGE 1 OF 1

CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
					Brown silty clay, hard, moist (CL)	
2.5		75	CL			0
		75				0
4.0					Brown to gray medium to fine-grained sand, loose, moist (SP)	
5.0						
		50	SP			31
7.5						
	7.5-10	50				54
10.0					Gray silty clay, very stiff, moist (CL)	
	10-12.5	75	CL			0
12.5						
		75	CL		Gray silty clay, hard, moist (CL)	
						0
15.0						

Bottom of borehole at 15.0 feet.

PIONEER SB/MMW/TP TEMPLATE - GINT STD US.GDT - 10/11/19 12:27 - R:\BORING LOGS ENVIRONMENTAL GINT\19-0338-101.GPJ



Pioneer Engineering & Environmental Svcs

Engineering & Environmental Services, LLC

BORING NUMBER B6015

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CLIENT Lake Lathrop LLC

PROJECT NAME Former River Forest Cleaners

PROJECT NUMBER 19-0338-101

PROJECT LOCATION 7601-7621 Lake Street, River Forest, IL

DATE STARTED 9/5/19

COMPLETED 9/5/19

GROUND ELEVATION _____

BOREHOLE DIAM. 2.25" Diam

DRILLING RIG GeoProbe7822 DT

GROUND WATER LEVELS:

SAMPLING METHOD Dual Tube

AT TIME OF DRILLING _____

LOGGED BY W. Baro

CHECKED BY M. Wells-Paske

AT END OF DRILLING _____

NOTES _____

AFTER DRILLING _____

DEPTH (ft)	SAMPLE ANALYZED DEPTH INTERVAL	RECOVERY %	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	PID (ppm)
0.0					Stratification lines represent approximate boundaries; the transition may be gradual.	
0.3					Concrete floor slab	
					Brown silty clay, hard, moist (CL)	
2.5		50	CL			0
		50				0
4.0					Brown to gray medium to fine-grained sand, loose, moist (SP)	
5.0						
		50	SP			49
7.5						
	7.5-10	50				52
10.0					Gray silty clay, very stiff, moist (CL)	
		50	CL			0
12.5						
		50	CL		Gray silty clay, hard, moist (CL)	0
15.0						

Bottom of borehole at 15.0 feet.

PIONEER SB/MMW/TP TEMPLATE - GINT STD US.GDT - 10/11/19 12:27 - R:\BORING LOGS ENVIRONMENTAL GINT\19-0338-101.GPJ



Illinois Environmental Protection Agency

Well Completion Report

Incident No.:	NA	Well No.:	B600/MW600
Site Name:	River Forest Cleaners	Date Drilled Start:	11/15/2001
Drilling Contractor:	Mid-America Drilling Services	Date Completed:	11/15/2001
Driller:	Jack	Geologist:	Bryce Bartelma
Drilling Model:	GeoProbe	Drilling Fluids (type):	None

Annular Space Details

Type of Surface Seal:	Concrete
Type of Annular Sealed:	Bentonite
Type of Bentonite Seal (Granular, Pellet):	3/8" Pellets
Type of Sand Pack:	Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		1"DIASch40	
Riser pipe below w.t.		1"DIASch40	
Screen		1"DIASch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

Measurements

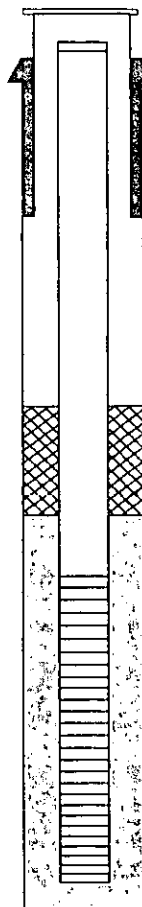
To .01 ft (where applicable)

Riser pipe length (feet)	5.15
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	16"
Depth to water	8.85
Elevation of water	620.38
Free product thickness	0.00"
Gallons removed (developed)	0
Gallons removed (purged)	0.2
Other	

Completed By: Kara Demsey

Elevations - .01 ft.

629.58	Top of Protective Casing
629.23	Top of Riser Pipe
629.58	Ground Surface
629.58	Top of Annular Sealant
0"	Casing Stickup



628.08	Top of Seal
2.00	Total Seal Interval
626.08	Top of Sand
624.08	Top of Screen
10.00	Total Screen Interval
614.08	Bottom of Screen
605.58	Bottom of Borehole



Illinois Environmental Protection Agency

Well Completion Report

Incident No.:	NA	Well No.:	B900/MW900
Site Name:	River Forest Cleaners	Date Drilled Start:	11/15/2001
Drilling Contractor:	Mid-America Drilling Services	Date Completed:	11/15/2001
Driller:	Jack	Geologist:	Bryce Bartelma
Drilling Model:	GeoProbe	Drilling Fluids (type):	None

Annular Space Details

Type of Surface Seal:	Concrete
Type of Annular Sealed:	Bentonite
Type of Bentonite Seal (Granular, Pellet):	3/8" Pellets
Type of Sand Pack:	Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		1"DIAsch40	
Riser pipe below w.t.		1"DIAsch40	
Screen		1"DIAsch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

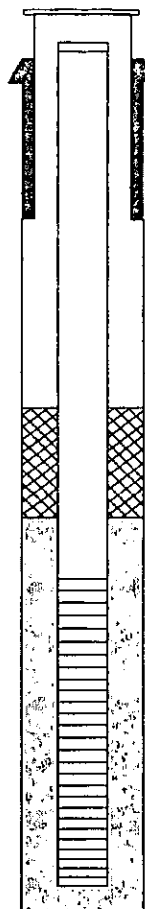
Measurements To .01 ft (where applicable)

Riser pipe length (feet)	3.78
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	16"
Depth to water	8.63
Elevation of water	620.48
free product thickness	0.00"
Gallons removed (developed)	0
Gallons removed (purged)	0.5
Other	

Completed By: Kara Demsey

Elevations - .01 ft.

629.53	Top of Protective Casing
629.11	Top of Riser Pipe
629.53	Ground Surface
629.53	Top of Annular Sealant
0"	Casing Stickup



628.03	Top of Seal
0.70	Total Seal Interval
627.33	Top of Sand
625.33	Top of Screen
10.00	Total Screen Interval
615.33	Bottom of Screen
605.53	Bottom of Borehole

The Agency is authorized to require this information under 415 ILCS 5/4 and 21. Disclosure of this information is required. Failure to do so may result in a civil penalty to \$25,000.00 for each day the failure continues, a fine up to \$50,000.00 and imprisonment up to five years. This form has been approved by the Forms Management



Illinois Environmental Protection Agency

Well Completion Report

Incident No.:	NA	Well No.:	B1000/MW1000
Site Name:	River Forest Cleaners	Date Drilled Start:	11/15/2001
Drilling Contractor:	Mid-America Drilling Services	Date Completed:	11/15/2001
Driller:	Jack	Geologist:	Bryce Bartelma
Drilling Model:	GeoProbe	Drilling Fluids (type):	None

Annular Space Details

Type of Surface Seal:	Concrete
Type of Annular Sealed:	Bentonite
Type of Bentonite Seal (Granular, Pellet):	3/8" Pellets
Type of Sand Pack:	Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		1"DIASch40	
Riser pipe below w.t.		1"DIASch40	
Screen		1"DIASch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

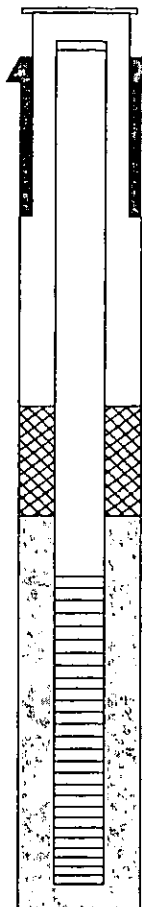
Measurements To .01 ft (where applicable)

Riser pipe length (feet)	4.64
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	16"
Depth to water	10.78
Elevation of water	617.63
Free product thickness	0.00"
Gallons removed (developed)	0
Gallons removed (purged)	0.1
Other	

Completed By: Kara Demsey

Elevations - .01 ft.

629.77	Top of Protective Casing
628.41	Top of Riser Pipe
629.77	Ground Surface
629.77	Top of Annular Sealant
0"	Casing Stickup



628.27	Top of Seal
2.50	Total Seal Interval
625.77	Top of Sand
623.77	Top of Screen
10.00	Total Screen Interval
613.77	Bottom of Screen
605.77	Bottom of Borehole



Illinois Environmental Protection Agency

Well Completion Report

Incident No.:	NA	Well No.:	B1100/MW1100
Site Name:	River Forest Cleaners	Date Drilled Start:	11/21/2001
Drilling Contractor:	Mid-America Drilling Services	Date Completed:	11/21/2001
Driller:	Jack	Geologist:	Carolyn Feltz
Drilling Model:	GeoProbe	Drilling Fluids (type):	None

Annular Space Details

Type of Surface Seal:	Concrete
Type of Annular Sealed:	Bentonite
Type of Bentonite Seal (Granular, Pellet):	3/8" Pellets
Type of Sand Pack:	Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		1"DIAsch40	
Riser pipe below w.t.		1"DIAsch40	
Screen		1"DIAsch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

Measurements

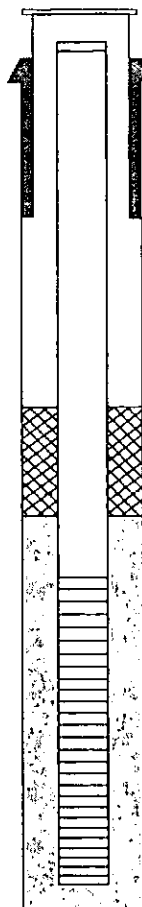
To .01 ft (where applicable)

Riser pipe length (feet)	4.45
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	16"
Depth to water	Dry
Elevation of water	-
Free product thickness	0.00"
Gallons removed (developed)	-
Gallons removed (purged)	-
Other	

Completed By: Kara Demsey

Elevations - .01 ft.

628.43	Top of Protective Casing
628.18	Top of Riser Pipe
628.43	Ground Surface
628.43	Top of Annular Sealant
0"	Casing Stickup



626.93	Top of Seal
1.20	Total Seal Interval
625.73	Top of Sand
623.73	Top of Screen
10.00	Total Screen Interval
613.73	Bottom of Screen
604.43	Bottom of Borehole



Illinois Environmental Protection Agency

Well Completion Report

Incident No.: NA
 Site Name: River Forest Cleaners
 Drilling Contractor: Drilling Unlimited
 Driller: Dave & Dennis
 Drilling Model: GeoProbe

Well No.: B1300/MW1300
 Date Drilled Start: 11/9/2004
 Date Completed: 11/9/2004
 Geologist: Martha Leflar
 Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete
 Type of Annular Seal: Bentonite
 Type of Bentonite Seal (Granular, Pellet): 3/8" Pellets
 Type of Sand Pack: Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		1"DIAsch40	
Riser pipe below w.t.		1"DIAsch40	
Screen		1"DIAsch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

Measurements

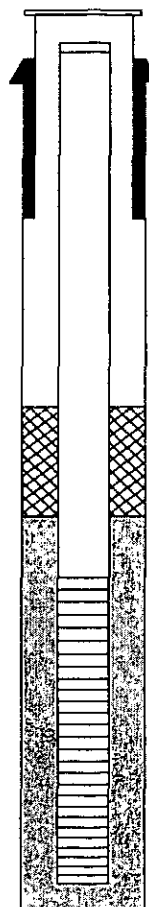
To .01 ft (where applicable)

Riser pipe length (feet)	6.23
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	12"
Depth to water	15.47
Elevation of water	612.89
Free product thickness	0.00"
Gallons removed (developed)	0
Gallons removed (purged)	0.0
Other	

Completed By: Martha Leflar

Elevations - .01 ft.

628.64 Top of Protective Casing
 628.36 Top of Riser Pipe
 628.64 Ground Surface
 628.64 Top of Annular Sealant
 0" Casing Stickup



627.14 Top of Seal
 2.73 Total Seal Interval
 624.41 Top of Sand
 622.41 Top of Screen
 10.00 Total Screen Interval
 612.41 Bottom of Screen
 608.64 Bottom of Borehole



Illinois Environmental Protection Agency

Well Completion Report

Incident No.: NA
 Site Name: River Forest Cleaners
 Drilling Contractor: Drilling Unlimited
 Driller: Dave & Dennis
 Drilling Model: GeoProbe

Well No.: B1600/MW1600
 Date Drilled Start: 9/21/2005
 Date Completed: 9/21/2005
 Geologist: Eric Purcell
 Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete
 Type of Annular Sealed: Bentonite
 Type of Bentonite Seal (Granular, Pellet): 3/8" Pellets
 Type of Sand Pack: Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.t.		2"DIA Sch40	
Riser pipe below w.t.		2"DIA Sch40	
Screen		2"DIA Sch40	
Coupling joint screen to riser			
Protective casing	9"DIA Steel		

Measurements

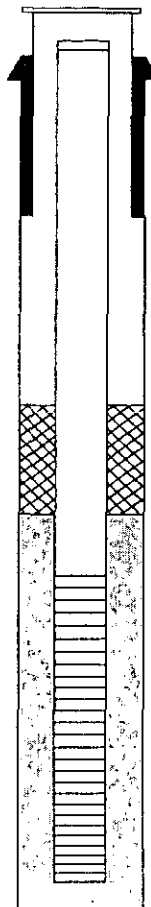
To .01 ft (where applicable)

Riser pipe length (feet)	37.00
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	12"
Depth to water	40.00
Elevation of water	588.29
Free product thickness	0.00"
Gallons removed (developed)	3
Gallons removed (purged)	0.0
Other	

Completed By: Mark G. Neuses

Elevations - .01 ft.

628.67 Top of Protective Casing
 628.29 Top of Riser Pipe
 628.67 Ground Surface
 628.67 Top of Annular Sealant
 0" Casing Stickup



627.17 Top of Seal
 33.88 Total Seal Interval
 593.29 Top of Sand
 591.29 Top of Screen
 10.00 Total Screen Interval
 581.29 Bottom of Screen
 580.96 Bottom of Borehole



Illinois Environmental Protection Agency

Well Completion Report

Incident No.: NA
 Site Name: River Forest Cleaners
 Drilling Contractor: Drilling Unlimited
 Driller: Dave & Dennis
 Drilling Model: GeoProbe

Well No.: B1800/MW1800
 Date Drilled Start: 9/21/2005
 Date Completed: 9/21/2005
 Geologist: Eric Purcell
 Drilling Fluids (type): None

Annular Space Details

Type of Surface Seal: Concrete
 Type of Annular Sealed: Bentonite
 Type of Bentonite Seal (Granular, Pellet): 3/8" Pellets
 Type of Sand Pack: Coarse sand #30, Fine sand #45-55

Well Construction Materials

	Stainless Steel Specify Type	PVC Specify Type	Other Specify Type
Riser coupling joint			
Riser pipe above w.l.		2" DI Asch40	
Riser pipe below w.l.		2" DI Asch40	
Screen		2" DI Asch40	
Coupling joint screen to riser			
Protective casing	9" DIA Steel		

Measurements

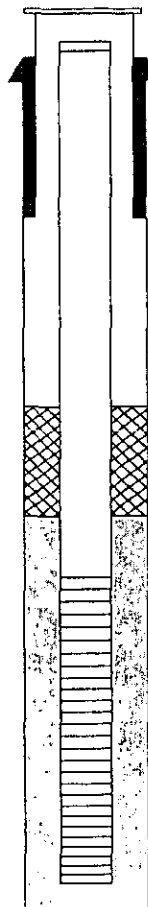
To .01 ft (where applicable)

Riser pipe length (feet)	5.54
Screen length (feet)	10.00
Screen slot size	.01"
Protective casing length	12"
Depth to water	12.34
Elevation of water	619.53
Free product thickness	0.00"
Gallons removed (developed)	0
Gallons removed (purged)	0.0
Other	

Completed By: Mark Neuses

Elevations - .01 ft.

631.87 Top of Protective Casing
 632.28 Top of Riser Pipe
 631.67 Ground Surface
 631.87 Top of Annular Sealant
 0" Casing Stickup



630.37 Top of Seal
 2.04 Total Seal Interval
 628.33 Top of Sand

626.33 Top of Screen

10.00 Total Screen Interval

616.33 Bottom of Screen
 616.28 Bottom of Borehole

SUBSURFACE SOIL SAMPLING PROTOCOL

Subsurface samples are collected by employing various soil boring techniques based on site-specific conditions. Soil borings may be advanced using any of the following methodologies: 1) a Bosch™ manual hydraulic/percussive Macro-Core® barrel sampler; 2) a truck-mounted GeoProbe 5410 hydraulic/percussive direct push sampling unit utilizing dual-tube sampling techniques; 3) a track-mounted GeoProbe 7822DT hydraulic/percussive direct push sampling unit utilizing dual-tube sampling techniques; 4) a track-mounted GeoProbe 6620DT hydraulic/percussive direct push sampling unit utilizing dual-tube sampling techniques; 5) a limited access GeoProbe hand-cart with a Macro-Core® barrel sampler or dual-tube sampler; and/or 6) stainless steel hand augers. The specific methodologies employed are described in the report and listed on the soil boring log for each soil boring location (i.e., Bosch, GeoProbe 5410, GeoProbe 7822DT, GeoProbe 6620DT, GeoProbe Hand-Cart, or HA, respectively).

The soil sampling activities are conducted in accordance with American Society of Testing and Materials (ASTM) standards (ASTM:D 1586 or 6282). Soil samples are collected with a stainless steel hand auger, a dual-tube sampler, and/or a Macro-Core® sampler at 2, 3, 4 or 5-foot intervals depending on the specific method used. In the dual-tube barrel sampling technique, a stainless steel barrel having a length of 3, 4 or 5 feet is used as an outer casing, and the inner string consists of a center rod fitted with a dedicated disposable DT22 liner. In the Macro-Core® barrel sampling technique, a stainless steel barrel with a length of 2 or 3 feet is fitted with a dedicated disposable PVC liner and is driven into the soil to collect a representative and undisturbed sample.

The soil borings are sampled across continuous intervals from ground surface to the desired sampling depth, unless otherwise noted. The desired sampling depth is predicated on the specific conditions to be assessed, but may be restricted due to site-specific conditions. The drilling is directed by a Pioneer Engineering & Environmental Services, LLC (Pioneer) Field Project Geologist/Engineer, who field screens auger cuttings and soil samples, prepares samples for laboratory analysis, logs geologic materials encountered during drilling, observes the drilling activities, and supervises sample collection.

After retrieval, soil samples obtained from each interval are immediately field screened for the presence of organic vapors along the exposed surface of the soil sample under ambient conditions. The samples are screened for volatile organic compounds (VOCs) and/or semivolatile organic compounds (SVOCs) using a MiniRAE™ 2000 handheld air monitor / photoionization detector (PID). This device is sensitive to a variety of petroleum/hazardous substances, including those typically targeted in subsurface investigations, and provide qualitative indications of the relative concentrations of organic contaminants trapped in the sample matrix.

After the sampling sleeve is opened and screened, and where elevated ambient screening results or other field indications of contamination are observed, an undisturbed portion of the sample from the portion of the interval displaying the highest indications of contamination is immediately selected for possible analysis. Where no elevated screening results are registered, the sample selected for analysis is chosen based on the nature of the REC being assessed, and the judgment of the Field Project Manager. The sample is immediately packed into laboratory provided glassware, or preserved in accordance with US EPA's SW-846 Method 5035, if submitted for VOC analysis. In accordance with Method 5035, a measured portion of the sample collected in the field (subsample - small diameter core) is transferred directly from the sampling device(s) to pre-labeled, pre-weighed, air-tight, laboratory-provided glassware with appropriate preservative (either empty vials with stir bars or deionized water-for samples with estimated VOC concentrations less than 0.200 ppm; or methanol-for samples with estimated VOC concentrations greater than 0.200 ppm) immediately after sample collection.

After initial screening and sample preparation, the remaining soil from the sample interval is logged according to its predominant geological characteristics, in accordance with the Unified Soil Classification System (USCS). The sample is further examined for the presence of odors and/or visual evidence of contamination (hydrocarbon or other), and a headspace reading is obtained from a portion of the sample that is allowed to equilibrate to the ambient atmospheric temperature in a dedicated Zip-lock™ bag for approximately 15 minutes, depending upon various factors, using a PID to obtain a maximum field reading. The soil classifications and the results of the headspace screening are described in the report and listed on the soil boring logs.

SUBSURFACE SOIL SAMPLING PROTOCOL (cont.)

Any soil samples chosen for possible analysis are packed in appropriate containers, properly labeled, designated for possible analysis, and placed in a cooler on ice for storage immediately after sample packing/preservation has been completed to preserve the integrity of the sample during field activities. Sample coolers are retained in the possession of Pioneer personnel at all times, and upon completion of the field activities, samples are delivered to the laboratory on the same day as sample collection, or delivered to Pioneer's office. Samples delivered to Pioneer's office are transferred directly from the coolers into a refrigerator dedicated to storing soil and groundwater samples. The samples are then contained within the refrigerator until they are relinquished to a NELAC-certified, independent laboratory under standard chain-of-custody procedures. Note that empty, stir bar vials or vials with deionized water are placed in the freezer section of the refrigerator if they will not be picked up by the laboratory within 48 hours of sample collection.

Samples are selected based on the scope of work, field observations (i.e. visual/odor observations, elevated PID readings, etc.), other site-specific conditions, and the judgment of the Pioneer Field Project Geologist/Engineer, and are submitted for possible analysis of the appropriate compounds targeted in the investigation.

Drill cuttings and liquids generated are left at the borehole. All boreholes are decommissioned in accordance with applicable Illinois Department of Public Health guidelines. When required, these spoils are contained in 55-gallon Type 17H drums.

Any deviations to or modifications of this standard protocol will be described on a site by site basis.

For a list of acronyms used on Pioneer's boring logs, please refer to the information on the following page.

SUBSURFACE SOIL SAMPLING PROTOCOL (cont.)

List of Acronyms

BSG = below surface grade

BTEX = benzene, toluene, ethylbenzene and total xylenes

HA = hand augers

MTBE = methyl tertiary-butyl ether

PCBs = polychlorinated biphenyls

Pest = pesticides

PID = photoionization detector

PNAs = polynuclear aromatic hydrocarbons

PP = priority pollutants

PPM = parts per million

RCRA = Resource Conservation and Recovery Act

SG = soil gas

SPLP = Synthetic Precipitation Leaching Procedure

SVOCs = semi-volatile organic compounds

TAL = target analyte list

TCL = target compound list

TCLP = toxicity characteristic leaching procedure

TOC = total organic carbon (usage related to soil tests)

TOC = top of casing (usage related to well construction and/or groundwater levels)

TPH = total petroleum hydrocarbons

TRPH = total recoverable petroleum hydrocarbons

VOCs = volatile organic compounds

USCS = Unified Soil Classification System

GROUNDWATER MONITORING WELL INSTALLATION & SAMPLING PROTOCOL

Groundwater monitoring wells are typically installed using hollow stem auger borings. When spatial constraints dictate, wells may be installed using manual hand-augering techniques, or other acceptable practices. Soil sampling conducted during well installation is performed according to Pioneer Engineering & Environmental Services, LLC (Pioneer's) Subsurface Soil Sampling Protocol. The activities are directed by a Pioneer Field Project Geologist/Engineer, who logs geologic materials encountered, field screens auger cuttings and soil samples, and supervises the drilling activities and well installations. All drilling equipment and tools are steam-cleaned prior to mobilization onto the site, between boreholes, and upon completion of the drilling program. In accordance with Pioneer's Site Safety Plan, a PID or FID is used to monitor ambient air concentrations during sampling activities, and personal protective equipment is utilized by site personnel as necessary.

Wells are constructed of 2-inch or 1-inch I.D. schedule 40 flush-joint PVC riser and screen. The well materials are steam-cleaned prior to installation. When the depth of the well allows, the annular space surrounding the screen is backfilled with silica sand filter pack to a height not less than 1 foot above the top of the well screen, and a minimum of 1 foot of bentonite is placed above the filter pack to provide a low permeability seal. The remaining annulus is sealed with a cement/bentonite grout to the ground surface. Well screens are positioned to monitor selected areas of the water column based on site specific contaminant conditions. The position of the screened interval relative to the water table is determined based on the presence of water/moisture in the soil samples retrieved during sampling, and the water levels observed during/after the drilling activities. When possible, the top of the screen is positioned at least 1 foot above the estimated water level to account for fluctuations in the water table. All wells are completed with flush-mounted protective casings and locking well caps or "stickup" locking protective casings (depending upon site traffic) and secured with concrete at the surface. The majority of the wells are installed near suspected source areas to evaluate contaminant conditions and determine the direction of groundwater flow.

After installation, each well is developed using a new disposable Teflon® or high-density polyethylene (HDPE) bailer, or a stainless steel submersible pump. Approximately 5 to 10 well volumes of water are purged from each well, until the well water is visually clear of suspended sediments or until further yield cannot be achieved. If a stainless steel pump is used during well development, it is decontaminated between wells using a tri-sodium phosphate (TSP) wash and triple water rinse. An elevation survey is also conducted to obtain well casing elevations for calculating groundwater elevations. An arbitrary site datum of 100.00 feet is used as a benchmark to initiate the survey, and well casing elevations are measured to the nearest 0.01 feet relative to the established benchmark using standard surveying techniques.

Water levels are allowed to recharge to static conditions prior to the collection of groundwater samples or elevation data, to ensure the collection of accurate and representative data. Water level measurements are recorded to the nearest 0.01 feet using a Sonic Interface Probe, and are compared with the respective casing elevations to calculate water level elevations and apparent groundwater flow directions. Measurable thicknesses of free product are also recorded during well gauging activities when present. Sample collection is accomplished following well development using a new disposable Teflon® or HDPE bailer for each well. If wells have been previously developed/sampled and are being re-sampled, they are purged of 3 to 5 well volumes of water from each well, or until further yield cannot be achieved, using techniques similar to those for well development. The groundwater samples are carefully decanted into appropriately-sized and properly-preserved laboratory provided sample containers, and labeled to identify the sample number/location, date, and sampling personnel. The samples are subsequently packed in a cooler on ice, and shipped overnight to an independent laboratory under standard chain of custody procedures for possible analysis of the appropriate COCs.

Quality Assurance/Quality Control (QA/QC) procedures for field sampling techniques are performed on a site-by-site basis per scope of work considerations and contract obligations. Any deviations to or modifications of this standard protocol will be described on a site-by-site basis.

SOIL GAS SAMPLING PROTOCOL

Active soil gas sampling is performed in general accordance with 35 IAC 742.227 and standard industry practices using the GeoProbe® and Post-Run Tubing (PRT) system. Prior to sampling, Pioneer visits the USGS website to verify that the site has not received more than 0.5-inch of rain within the last 48 hours. If the site has received more than 0.5-inch of rain within the 48 hours of the anticipated sample collection time, the sampling schedule is adjusted as necessary to ensure a sufficient amount of time has passed prior to soil gas sample collection.

The PRT system consists of probe rods fitted with a PRT Adapter with O-ring, a PRT expendable point holder with O-ring, and an expendable drive point. A jackhammer is used to drive the probe rods equipped with expendable drive points to the desired sampling depth (greater than 3 feet below surface grade, and above the water table, per IEPA guidelines). The rods are retracted approximately 4 to 6 inches and a thin rod is used to disengage the expendable drive point and allow exposure to the soil. An adequate length of 0.25-inch (inside diameter) Teflon® tubing is connected to the PRT Adapter and fed down through the probe rod. The Teflon® tubing is rotated until the PRT Adapter is threaded into the expendable point holder and the O-ring is firmly seated.

To create an air-tight environment around the soil gas probe, VOC-free modeling clay is used to seal around the top of the probe rod. Once sealed, field technicians wait 30 minutes to allow the subsurface conditions to equilibrate prior to sampling. A shroud system is set-up over the sealed hole and a helium gas canister line and 60-cc syringe tubing are connected to the respective ports on the shroud system. Lastly, a 1- or 6-L summa canister is connected to the T-manifold on the sampling train with the in-line pressure regulator/vacuum gauge.

After the soil gas probe has been sealed, the shroud is covered with plastic sheeting to create a “closed” environment. A vacuum check is performed on the sampling train by using an in-line pressure regulator/vacuum gauge to apply a vacuum to the system with a 60-cc syringe and monitoring the gauge to ensure the vacuum remains steady for approximately 30 seconds. Once the vacuum test passes, a Radiodetection MGD 2002 Multi-Gas Leak Locator is connected to the tubing port where the syringe was previously connected. The shroud is then filled with helium tracer gas (as approved by the IEPA). If no helium is detected in the sampling train, the leak test passed. If in the case helium is detected, all connections are checked and another helium leak test is completed. Once the system passes the helium leak test, the Radiodetection MGD 2002 Multi-Gas Leak Locator is disconnected and the 60-cc syringe is reconnected to the system. A minimum of three air volumes is purged from the sampling system and the sample vacuum is monitored during purging to ensure high vacuum pressures are avoided in order to maintain equilibrium in the soil. Prior to sample collection, the initial canister pressure is recorded. To begin sampling, the valve on the T-manifold is opened and the soil gas sample is collected through the sampling train directly into a laboratory-provided 1- or 6-L summa canister set at a flow rate of 200 ml/min. The final canister pressure is recorded at the completion of sampling activities. Once all sampling activities are complete and rods are removed, the borehole is backfilled with bentonite to surface grade.

Any deviations to or modifications of this standard protocol will be described on a site by site basis.

Appendix D Hydraulic Gradient, Slug Test Data & Potable Well Survey Documentation

Waterloo Hydrogeologic

180 Columbia St. W.

Waterloo, Ontario, Canada

ph.(519)746-1798

slug/bail test analysis

BOUWER-RICE's method

Page 1

Project: 05-2200-0153

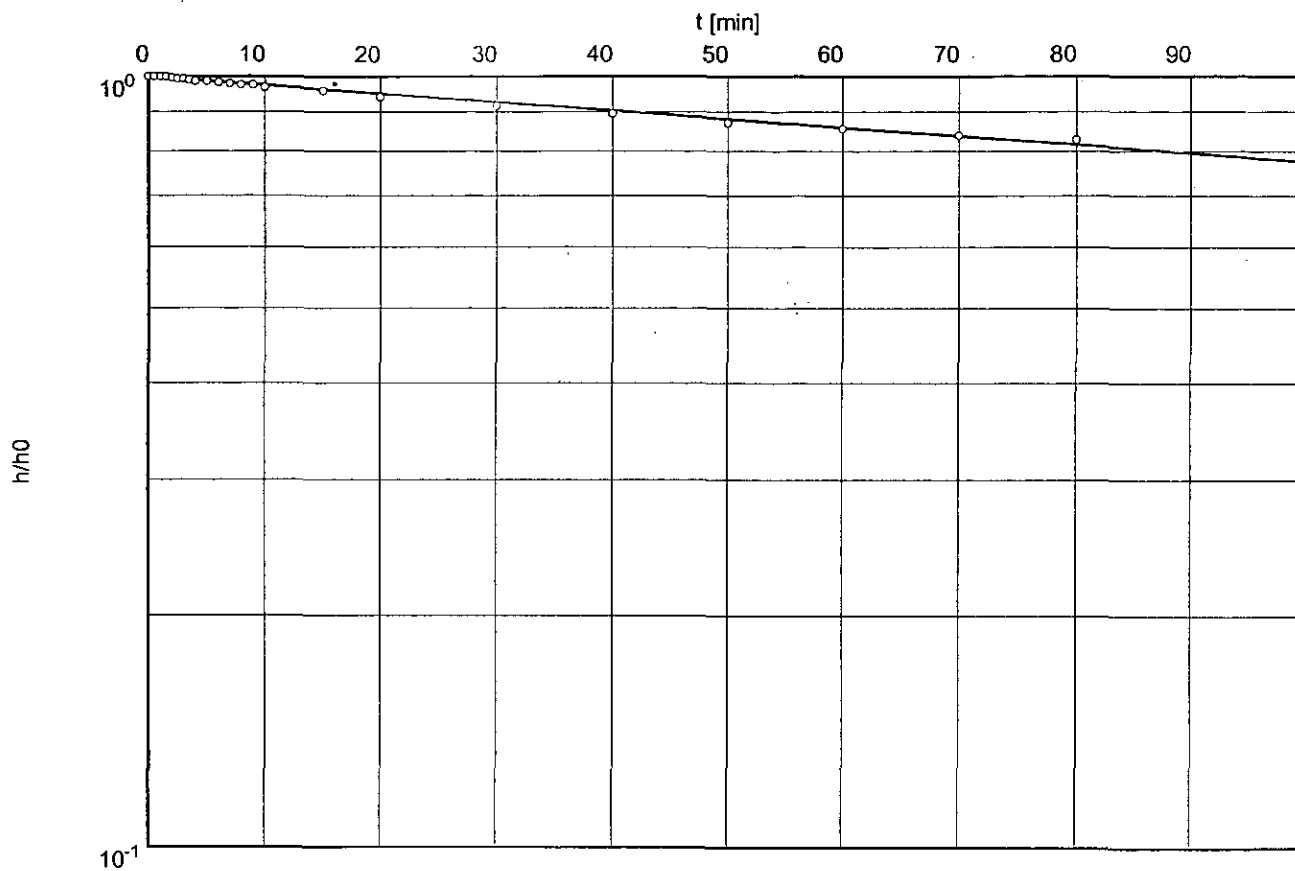
Evaluated by: MGN

Date: 1/27/2006

Slug Test No. 1

Test conducted on: 10/06/2005

MW1800



o River Forest Cleaner

Hydraulic conductivity [ft/min]: 1.41×10^{-6} (cm/sec): 7.16×10^{-7}

[illegible]

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

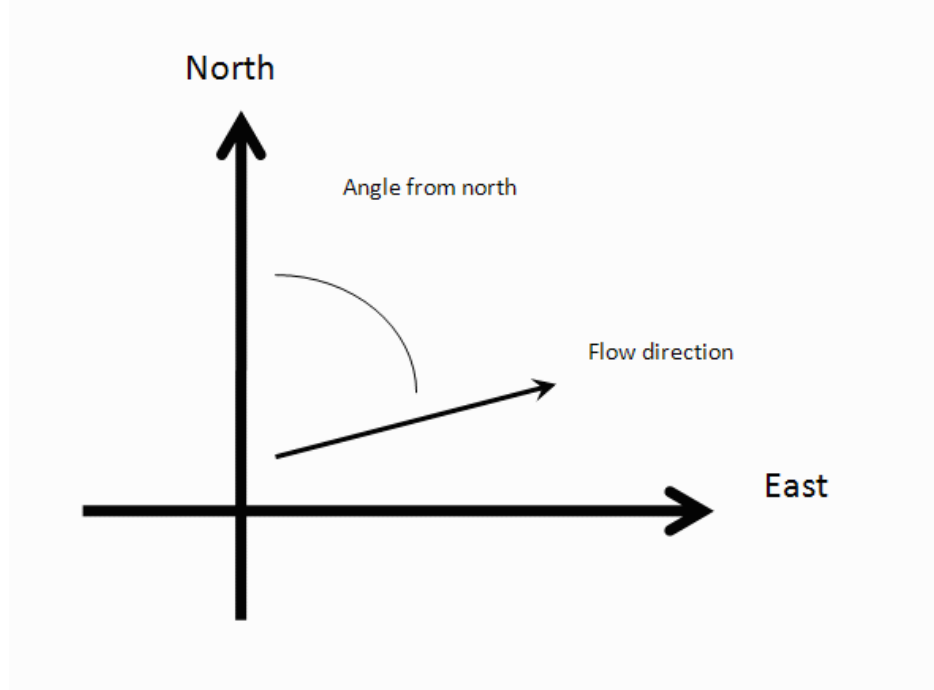
$$\begin{aligned} a x_1 + b y_1 + c &= h_1 \\ a x_2 + b y_2 + c &= h_2 \\ a x_3 + b y_3 + c &= h_3 \\ &\dots \\ a x_{30} + b y_{30} + c &= h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW600	3.75	55	620.43	
2) MW900	26.5	1	620.47	
3) MW1000	150	40	617.8	
4)				
5)				
6)				
7)				
8)				
9)				
10)				
11)				
12)				

13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	3
Max. Difference Between Head Values	0.8138
Gradient Magnitude (i)	0.02078
Flow direction as degrees from North (positive y axis)	65.27
Coefficient of Determination (R^2)	1.00

WCMS

Last updated on 2/23/2016

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

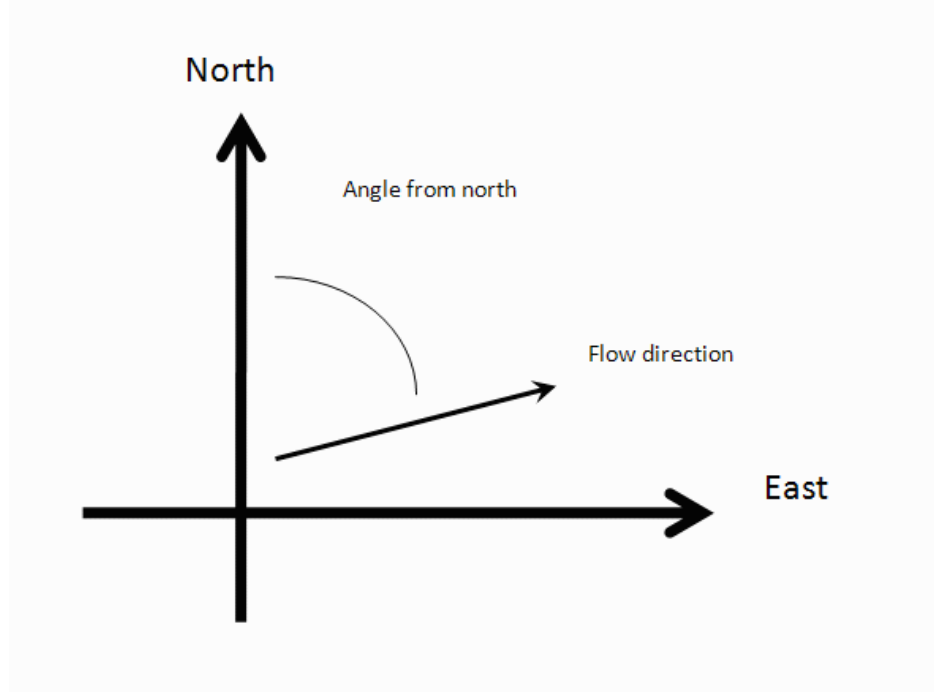
$$\begin{aligned} a x_1 + b y_1 + c &= h_1 \\ a x_2 + b y_2 + c &= h_2 \\ a x_3 + b y_3 + c &= h_3 \\ &\dots \\ a x_{30} + b y_{30} + c &= h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW600	3.75	55	620.88	
2) MW900	26.5	1	620.76	
3) MW1000	150	40	618.91	
4) MW1100	35	148.5		
5) MW1300	129	148	612.89	
6)				
7)				
8)				
9)				
10)				
11)				
12)				

13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	4
Max. Difference Between Head Values	2.435
Gradient Magnitude (i)	0.04942
Flow direction as degrees from North (positive y axis)	18.26
Coefficient of Determination (R^2)	0.918

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

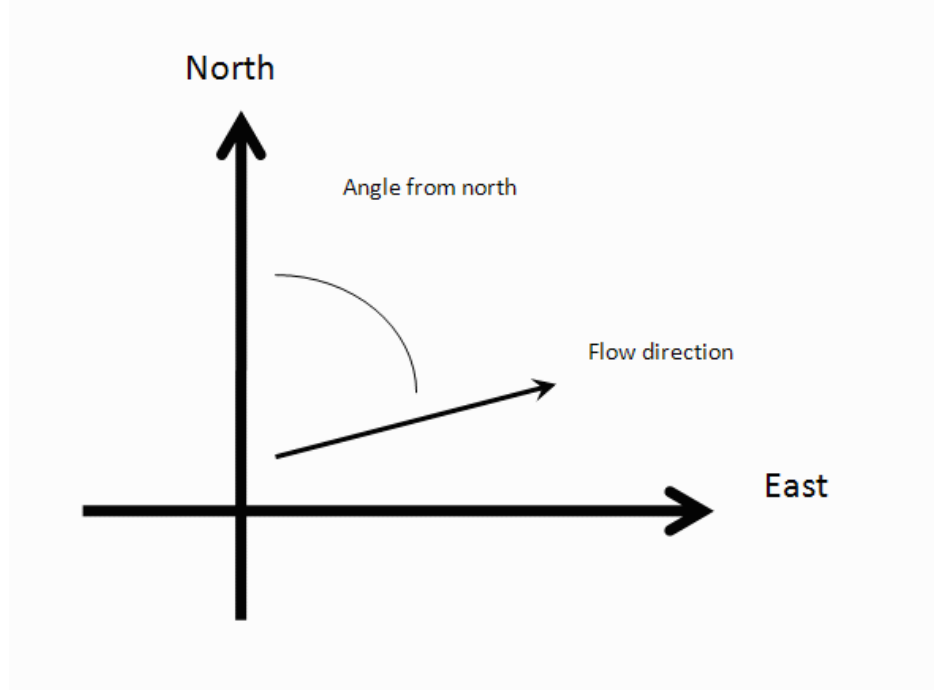
$$\begin{aligned} a x_1 + b y_1 + c &= h_1 \\ a x_2 + b y_2 + c &= h_2 \\ a x_3 + b y_3 + c &= h_3 \\ &\dots \\ a x_{30} + b y_{30} + c &= h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW600	3.75	55	615.2	
2) MW900	26.5	1	620.16	
3) MW1000	150	40	617.44	
4) MW1100	35	148.5		
5) MW1300	129	148		
6) MW1800	20.5	1	612.21	
7)				
8)				
9)				
10)				
11)				
12)				

13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	4
Max. Difference Between Head Values	2.423
Gradient Magnitude (i)	0.02130
Flow direction as degrees from North (positive y axis)	312.0
Coefficient of Determination (R^2)	0.0947

WCMS

Last updated on 2/23/2016

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

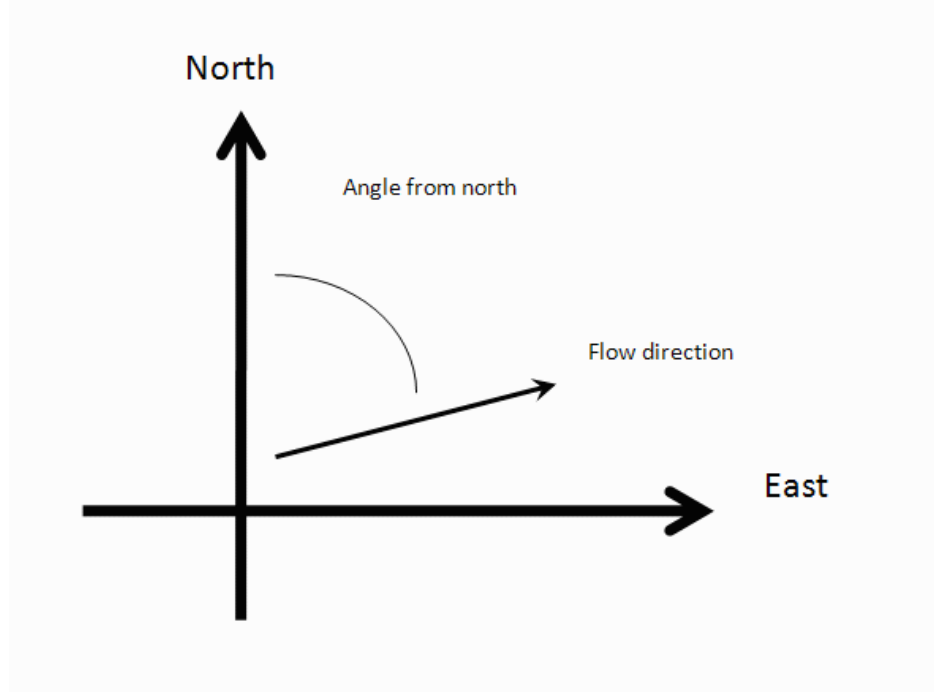
$$\begin{aligned} a x_1 + b y_1 + c &= h_1 \\ a x_2 + b y_2 + c &= h_2 \\ a x_3 + b y_3 + c &= h_3 \\ &\dots \\ a x_{30} + b y_{30} + c &= h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW600	3.75	55	621.38	
2) MW900	26.5	1	621.33	
3) MW1000	150	40	619.33	
4) MW1100	35	148.5	613.82	
5) MW1300	129	148	614.5	
6) MW1800	20.5	1	617.51	
7)				
8)				
9)				
10)				
11)				
12)				

13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

Results

Number of Points Used in Calculation	6
Max. Difference Between Head Values	2.304
Gradient Magnitude (i)	0.03838
Flow direction as degrees from North (positive y axis)	3.544
Coefficient of Determination (R^2)	0.640

EPA On-line Tools for Site Assessment Calculation

Hydraulic Gradient -- Magnitude and Direction

Gradient Calculation from fitting a plane to as many as thirty points

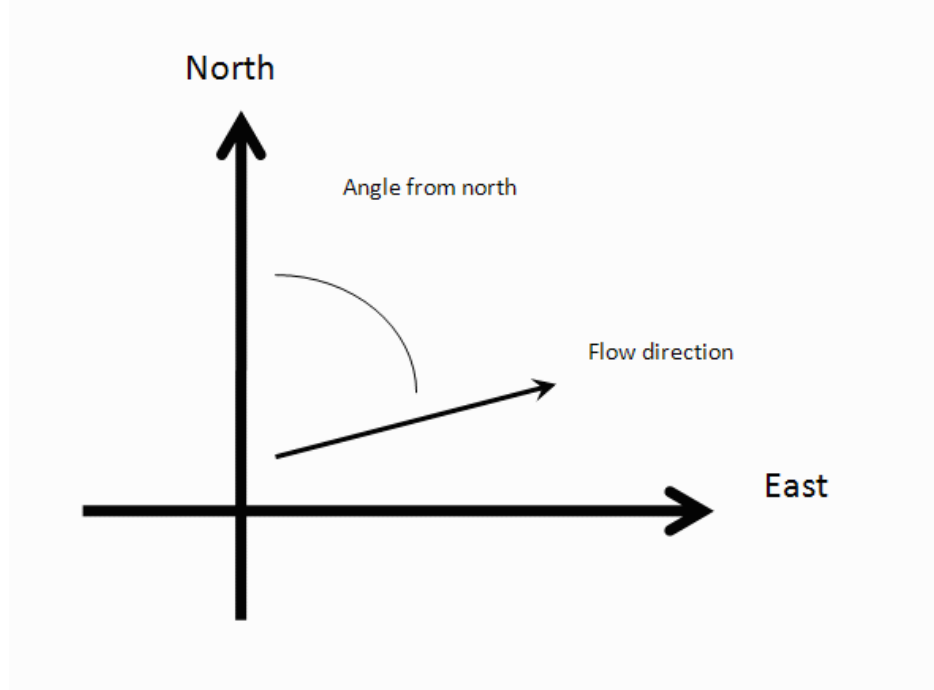
$$\begin{aligned} a x_1 + b y_1 + c &= h_1 \\ a x_2 + b y_2 + c &= h_2 \\ a x_3 + b y_3 + c &= h_3 \\ &\dots \\ a x_{30} + b y_{30} + c &= h_{30} \end{aligned}$$

where (x_i, y_i) are the coordinates of the well and
 h_i is the head

$i = 1, 2, 3, \dots, 30$

The coefficients a , b , and c are calculated by a least-squares fitting of the the data to a plane

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant



Inputs

Site Name

Date

Calculation basis

Coordinates

I.D.	x-coordinate	y-coordinate	head	ft
1) MW600	3.75	55	618.76	
2) MW900	26.5	1	620.24	
3) MW1000	150	40	618.65	
4) MW1100	35	148.5	613.55	
5) MW1300	129	148	614.56	
6) MW1800	20.5	1	616.40	
7)				
8)				
9)				
10)				
11)				
12)				

13)				
14)				
15)				
16)				
17)				
18)				
19)				
20)				
21)				
22)				
23)				
24)				
25)				
26)				
27)				
28)				
29)				
30)				

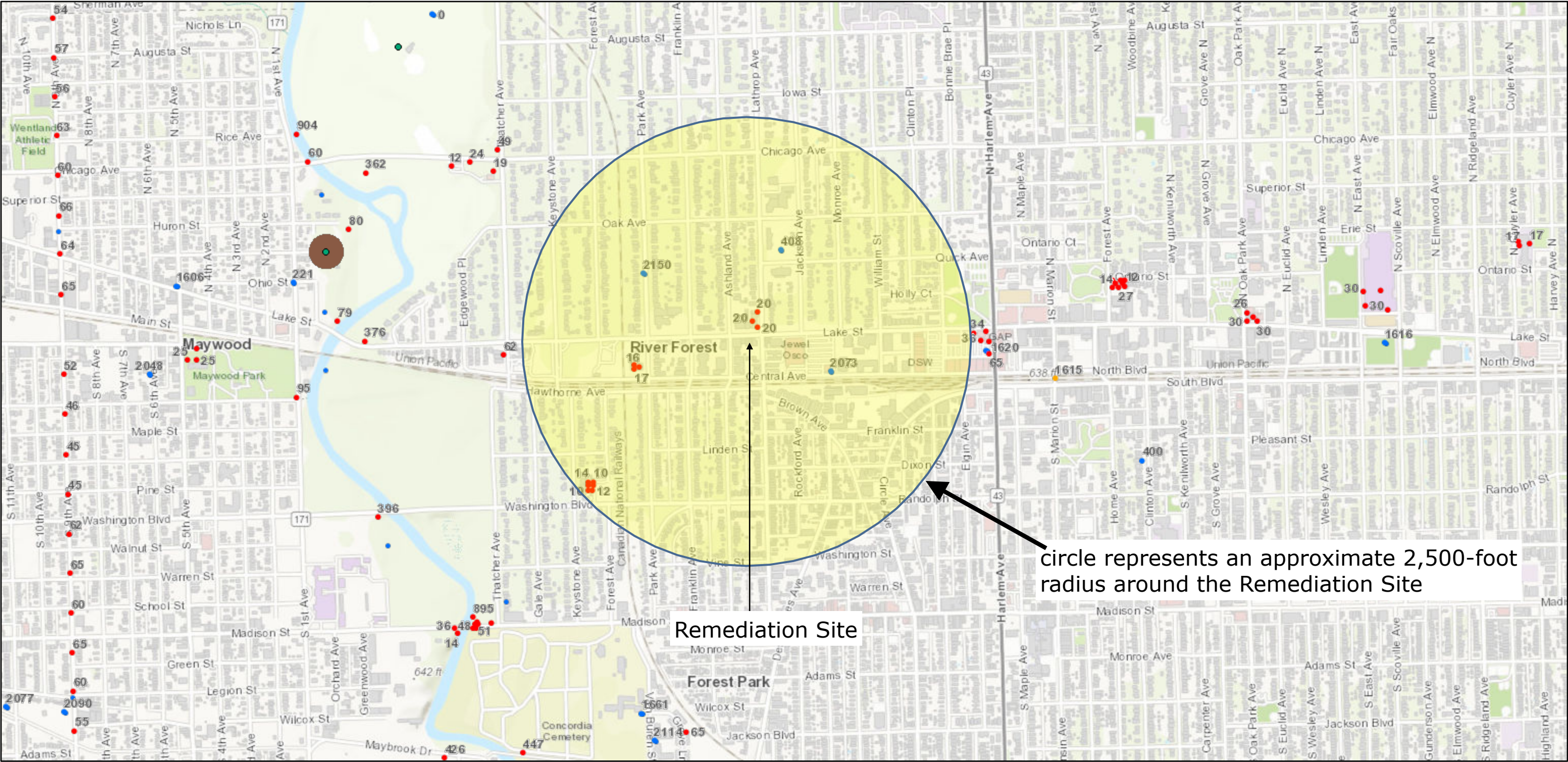
Results

Number of Points Used in Calculation	6
Max. Difference Between Head Values	2.039
Gradient Magnitude (i)	0.03348
Flow direction as degrees from North (positive y axis)	351.0
Coefficient of Determination (R^2)	0.670

WCMS

Last updated on 2/23/2016

ArcGIS Web Map



1/15/2020, 6:23:56 PM

Water and Related Wells

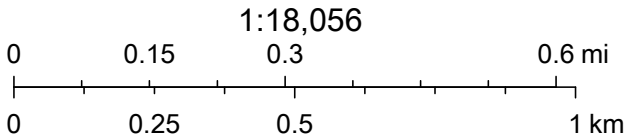
- Water
- Dry
- Engineering
- Stratigraphic

- Observation
- Mineral Test
- Outcrop
- Mine-related
- Hazardous Waste or Leaking Tank

Labels - Total Depth

- Regulated Recharge Areas
- Non-CWS Wells Minimum Setback Zone
- Non-CWS Wells
- CWS Wells Adopted Maximum Setback Zone

- CWS Wells Minimum Setback Zone
- CWS Wells
- ISGS Database Wells
- Counties



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Illinois

Web AppBuilder for ArcGIS

Water Well	Top	Bottom
Interpretation by: S. E. Ekblaw on 01-NOV-30		
Till, slightly sandy, pebbly, brownish gray	0	30
Sand, medium to coarse, grains of quartz, chert, shale and igneous material	30	35
Till, sandy, brown, full of shale grains	35	45
Till, pebbly, brownish gray	45	55
Sand, medium grains of quartz, chert, igneous material and shale	55	65
Till, slightly sandy, pebbly, brownish gray	65	80
Dolomite, white to gray, spotted brown, porous, very finely crystalline	80	110
Dolomite, slightly cherty, white to gray, partly porous, very finely crystalline	110	115
Dolomite, white to gray, partly porous, very finely crystalline	115	140
Dolomite, very cherty, buff, very finely crystalline, dense, hard	140	150
Dolomite, cherty, white to buff, dense	150	195
Dolomite, very cherty, white to buff, dense	195	205
Dolomite, very cherty, buff, dense	205	235
Dolomite, cherty, white to buff, dense	235	240
Dolomite, white to gray, dense	240	270
Dolomite, light buff, dense	270	280
Dolomite, slightly cherty, white, dense	280	300
Dolomite, white to gray, spotted, pink and green, dense	300	315
Dolomite, white, spotted pink, dense	315	325
Dolomite, white to buff, dense, interbedded with		

Permit Date:

Permit #:

COMPANY Geiger, S. B. Co.

FARM Bowman Dairy Co.

DATE DRILLED January 1, 1930

NO.

ELEVATION 631GL

COUNTY NO. 01604

LOCATION 2500'N line, 1875'E line of section

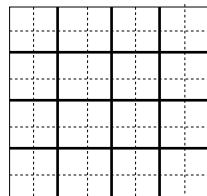
LATITUDE 41.887174

LONGITUDE -87.811881

COUNTY Cook

API 120310160400

12 - 39N - 12E



dolomite, brownish gray, medium	325	350
Dolomite, slightly glauconitic, buff to brownish gray, spotted blue, finely crystalline	350	370
Dolomite, slightly glauconitic, slightly cherty, buff to brownish gray, finely crystalline	370	380
Dolomite, slightly glauconitic, cherty, brownish gray, speckled brown, fine to medium	380	405
Dolomite, gray to brownish gray, speckled brown, fine, loose	405	415
Siltstone, dolomitic, bluish gray, and shale, brownish to bluish gray, speckled black	415	430
Dolomite, bluish gray, spotted, white, finely crystalline	430	445
Shale, dolomitic, brownish gray, speckled black	445	450
Dolomite, gray, finely granular	450	460
Shale, brownish gray, speckled black, soft	460	480
Dolomite, brownish gray, medium, and dolomite, bluish gray, fine	480	490
Dolomite, brownish gray medium crystalline, and siltstone, dolomitic, bluish gray	490	500
Siltstone, dolomitic, light bluish gray, spotted, dark	500	505
Shale, dolomitic, gray to brown, soft, interbedded with dolomite, dark, brownish gray	505	520
Dolomite, brownish gray, medium, and dolomite, white, pink, and buff, fine	520	525
Dolomite, argillaceous, buff, gray, bluish and brownish gray, finely crystalline, with abundant secondary pyrite	525	540
Shale, dolomitic, bluish gray, soft, grading to dolomite, argillaceous, bluish gray	540	545
Shale, dolomitic, gray to brown speckled black, soft	545	565
Shale, dolomitic, bluish gray, soft, grading to		

dolomite, argillaceous, bluish gray	565	575
Dolomite, brownish gray, finely crystalline, partly porous	575	585
Dolomite, buff to brownish gray, finely crystalline partly porous	585	680
Dolomite, dark gray to dark buff, finely crystalline, partly porous	680	725
Dolomite, buff to brown and blue, finely to medium crystalline, fossiliferous, partly porous	725	775
Dolomite, buff to brownish gray, mottled blue, partly porous	775	810
Dolomite, gray to bluish gray, spotted blue, very finely crystalline	810	825
Dolomite, as above, and dolomite, buff, finely crystalline, partly porous	825	835
Dolomite, buff, spotted blue and brown, finely crystalline, partly porous	835	860
Dolomite, buff to bluish gray, finely crystalline, partly porous	860	880
Dolomite, bluish gray, spotted buff and brown, very finely crystalline	880	885
Dolomite, dark buff, spotted blue, very finely crystalline	885	900
Dolomite, sandy, dark buff, and sandstone, fine to medium, incoherent	900	905
Sandstone, white to gray, fine to medium, incoherent	905	920
Sandstone, white, fine to medium, incoherent	920	970
Sandstone, white, fine to medium, mostly fine	970	1000
Sandstone, white to buff, very fine to medium, incoherent, secondary pyrite	1000	1020
Sandstone, white to buff, fine to medium, incoherent	1020	1035

Geiger, S. B. Co.

Bowman Dairy Co

COUNTY Cook

API 120310160400 12 - 39N - 12E

Sandstone, cherty, white to buff, fine to medium with shale, sandy, gray, interbedded	1035	1045
Conglomerate, sandy, cherty, glauconitic with shale, green, smooth, soft, and shale, brownish gray, interbedded	1045	1055
Dolomite, white to light gray, very finely crystalline	1055	1080
Dolomite, pink, medium, and dolomite, white, finely crystalline	1080	1090
Dolomite, cherty, white to buff, very finely crystalline	1090	1130
Dolomite, buff, finely crystalline	1130	1140
Dolomite, white to buff, finely crystalline	1140	1150
Sandstone, dolomitic, white, fine to medium, compact	1150	1160
Dolomite, sandy, buff, finely crystalline	1160	1170
Dolomite, slightly sandy, buff to dark gray, finely crystalline	1170	1185
Dolomite, white to buff, finely crystalline	1185	1195
Dolomite, buff to dark gray, finely crystalline, compact	1195	1255
Dolomite, buff to light brown, finely crystalline, partly porous	1255	1275
Dolomite, light gray to gray, very finely crystalline, compact	1275	1280
Dolomite, slightly cherty, buff, finely crystalline, compact	1280	1295
Shale, brownish red, soft, and shale, glauconitic, sandy, green, soft	1295	1300
"Lime hard gray"	1300	1320
Sandstone, very glauconitic, dolomitic, pink to brown, very fine to fine, well cemented	1320	1325
Dolomite, cherty, slightly glauconitic, white to buff,	1325	1330

Geiger, S. B. Co.

Bowman Dairy Co

COUNTY Cook

API 120310160400 12 - 39N - 12E

very finely crystalline, compact		
"Lime, hard, gray"	1330	1335
Sandstone, very glauconitic, dolomitic, pink to brown, very fine to fine, well cemented	1335	1340
Sandstone, very glauconitic, dolomitic, greenish gray, very fine to fine, well cemented	1340	1370
Sandstone, very glauconitic, more dolomitic, greenish gray, very fine to fine	1370	1410
Sandstone, dolomitic, glauconitic, white to buff, fine to coarse, well cemented	1410	1415
Sandstone, dolomitic, white to buff, medium, incoherent	1415	1480
Sandstone, slightly dolomitic, buff, fine to coarse, mostly medium, incoherent	1480	1495
Sandstone, white, fine to medium, incoherent	1495	1505
Sandstone, slightly dolomitic, buff, fine to medium, incoherent	1505	1515
Sandstone, white to buff, fine to medium, incoherent	1515	1520
Sandstone, dolomitic, white to buff, very fine to medium, poorly cemented	1520	1540
Sandstone, white to buff, very fine to medium, incoherent	1540	1600
Sandstone, slightly dolomitic, white to buff, fine to medium, poorly sorted	1600	1615
Sandstone, slightly , dolomitic, slightly glauconitic, with shale, sandy and non-sandy, micaceous, bluish gray, interbedded	1615	1625
Sandstone, dolomitic, glauconitic, micaceous, greenish gray, fine to medium with shale, silty micaceous, bluish gray, interbedded	1625	1655
Sandstone, similar to above but fine; shale, as above	1655	1670
"Shale"	1670	1675

Geiger, S. B. Co.

Bowman Dairy Co

COUNTY Cook

API 120310160400 12 - 39N - 12E

Shale, slightly sandy, slightly glauconitic, bluish gray	1675	1680
Sandstone, dolomitic, glauconitic, very fine to fine, greenish gray, with shale, as above, interbedded	1680	1690
Shale, slightly sandy, slightly glauconitic, bluish gray	1690	1695
Sandstone, dolomitic, glauconitic, greenish gray, very fine to fine, with shale, slightly glauconitic, micaceous, bluish gray, interbedded	1695	1710
Sandstone, as above, pink, with shale, micaceous, finely sandy, pinkish brown	1710	1720
Shale, slightly sandy, green, soft	1720	1765
Sandstone, glauconitic, dolomitic, very fine, gray to green, with shale, micaceous, red and green, interbedded	1750	1755
Sandstone, as above, and shale, micaceous, green, firm, interbedded	1755	1800
Shale, slightly sandy, green mottled red	1765	1750
Shale, slightly dolomitic, slightly micaceous, greenish gray, mottled red, soft	1800	1805
Dolomite, sandy, glauconitic, light gray, mottled pink, finely crystalline grading to shale, sandy, glauconitic, micaceous, gray	1805	1825
Dolomite, very glauconitic, sandy, white to light gray, with shale, micaceous, green and red, and sandstone, dolomitic, glauconitic, very fine, interbedded	1825	1860
Shale, very glauconitic, sandy, green and reddish brown, interbedded	1860	1865
"Sand"	1865	1875
"Shale"	1875	1900
"Sand"	1900	1920
Sandstone, gray, fine to medium, sooty, incoherent, fossiliferous	1920	1935
Sandstone, dolomitic, gray, fine to medium, incoherent		

Geiger, S. B. Co.

Bowman Dairy Co

COUNTY Cook

API 120310160400 12 - 39N - 12E

	1935	1940
Sandstone, gray, very fine to fine, partly sooty, incoherent	1940	1960
"Sand and hard lime"	1960	1970
Sandstone, slightly, dolomitic, gray, very fine to fine, fossiliferous, partly sooty, poorly cemented	1970	1985
Sandstone, gray, fine to medium, mostly fine, partly sooty, incoherent	1985	2015
Sandstone, dark gray, fine to medium, much fractured, sooty, incoherent	2015	2020
"Sand"	2020	2040
Sandstone, brownish gray, very fine to coarse, incoherent	2040	2050
Sandstone, light gray, fine to coarse, partly sooty, incoherent	2050	2060
Silurian	70	
Maquoketa	400	
Galena	575	
St Peter	905	
Ironton	1410	
Eau Claire	1615	
Mount Simon	2040	
Total Depth		2073
Driller's Log filed		
Survey Sample Study filed		
Sample set # 1041 (15' - 2060') Received: November 1, 1930		

Geiger, S. B. Co.

Bowman Dairy Co

COUNTY Cook

API 120310160400 12 - 39N - 12E



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601

GEORGE H. RYAN, GOVERNOR

RENEE CIPRIANO, DIRECTOR

217/782-1020

9/25/02

Tim Heisler
Northern Environmental
647 Academy Dr.
Northbrook, IL 60062-

Re: Request Regarding the Location of community water supply wells in Illinois.
(FOIA NO: 2002P0740)

Dear Tim Heisler:

This letter responds to your written inquiry received in Public Water Supplies on 9/13/02 regarding your project area located in the SE ¼ of the NW ¼ of Section 12, T39N, R12E.

You requested information pertaining to the nearest community water supply well. Based upon the information provided, the project area appears to be located outside 2,500 feet from a community water supply well.

Effective September 1st, 2001, the Pleasant Valley Public Water District, in Peoria County, is the first and only regulated recharge area to designate a defined area with specific regulations in place for the area contributing groundwater to its public water supply wells pursuant to section 17.3 of the Illinois Environmental Protection Act (Act). Further, Class III Special Resource Groundwaters has been listed by the Illinois Pollution Control Board with respect to the contribution to Parker Fen in McHenry County.

The Illinois Department of Public Health should be contacted at (217) 782-5830 in regards to the regulations concerning private, semi-private or non-community public water supply wells and the Illinois State Water Survey should be contacted at (217) 333-9043 in regards to the location of these wells. I trust that this meets your needs. Should you require any further information, please feel free to contact me at the above referenced number.

Sincerely,

Janet Christer
FOIA Coordinator, Manager's Office
Division of Public Water Supply
Bureau of Water

cc: File

ROCKFORD - 4302 North Main Street, Rockford, IL 61103 - (815) 987-7404 • DES PLAINES - 9511 W. Harrison St., Des Plaines, IL 60016 - (847) 294-4073
ELGIN - 595 South State, Elgin 60123 - (847) 608-3131 • PEORIA - 5414 N. University St., Peoria, IL 61614 - (309) 693-5462
CHAMPAIGN - 2125 South First Street, Champaign, IL 61820 - (217) 333-6907 • SPRINGFIELD - 4500 S. Sixth Street Rd., Springfield, IL 62706 - (217) 786-6892
COLLINSVILLE - 2009 Mall Street, Collinsville, IL 62234 - (618) 346-5120 • MARION - 2309 W. Main St., Suite 116, Marion, IL 62959 - (618) 993-7200

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORD SOURCES

According to ASTM E 1527-00, Section 7.2.2, "one or more additional state or local sources of environmental records may be checked, in the discretion of the environmental professional, to enhance and supplement federal and state sources... Factors to consider in determining which local or additional state records, if any, should be checked include (1) whether they are reasonably ascertainable, (2) whether they are sufficiently useful, accurate, and complete in light of the objective of the records review (see 7.1.1), and (3) whether they are obtained, pursuant to local, good commercial or customary practice." One of the record sources listed in Section 7.2.2 is water well information. Water well information can be used to assist the environmental professional in assessing sources that may impact groundwater flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
B6	415314087483901	1/8 - 1/4 Mile ESE
B7	415314087483901	1/8 - 1/4 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
15	IL0069906	1/2 - 1 Mile North

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

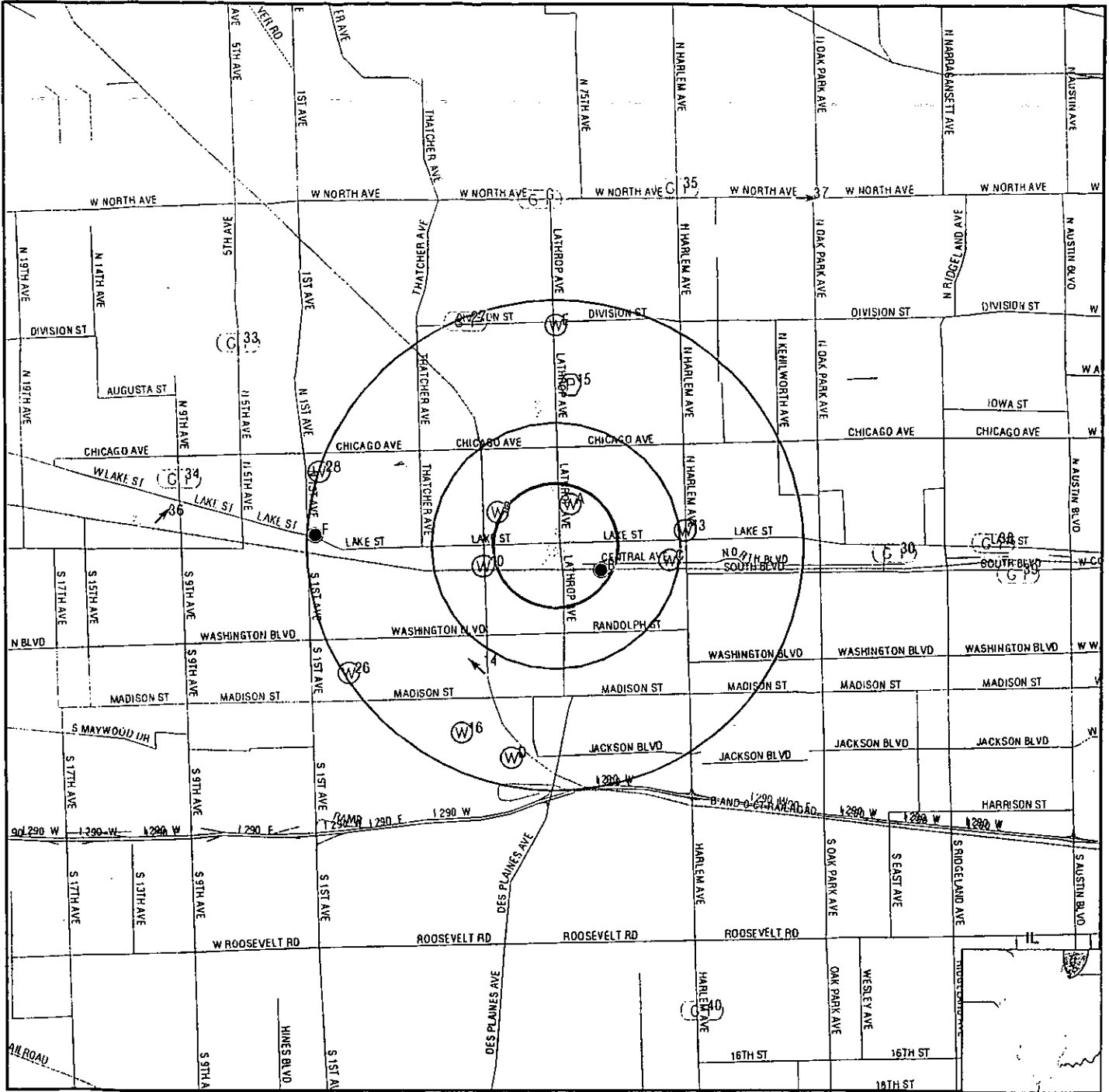
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	P6801	1/8 - 1/4 Mile NNE
B3	GIL00020586	1/8 - 1/4 Mile ESE
B4	P6800	1/8 - 1/4 Mile ESE
A5	GIL00019925	1/8 - 1/4 Mile NNE
9	GIL00020611	1/4 - 1/2 Mile WNW
10	P6802	1/4 - 1/2 Mile WSW
C11	P6799	1/4 - 1/2 Mile ESE
C12	GIL00021386	1/2 - 1 Mile East
13	P6922	1/2 - 1 Mile East
16	P6808	1/2 - 1 Mile SSW
D17	GIL00019426	1/2 - 1 Mile SSW
D18	P6805	1/2 - 1 Mile South
D19	P6806	1/2 - 1 Mile South

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D20	P6807	1/2 - 1 Mile South
E21	P6730	1/2 - 1 Mile North
E22	P6731	1/2 - 1 Mile North
D23	GIL00022060	1/2 - 1 Mile SSW
F24	P6791	1/2 - 1 Mile West
F25	P6790	1/2 - 1 Mile West
26	P6789	1/2 - 1 Mile WSW
28	P6792	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 835266.3s



-  Major Roads
 Contour Lines
 Water Wells
 Public Water Supply Wells
 Groundwater Flow Direction
 Indeterminate Groundwater Flow at Location
 Groundwater Flow Varies at Location
 Cluster of Multiple Icons

 Earthquake epicenter, Richter 5 or greater
 Closest Hydrogeological Data

TARGET PROPERTY: River Forest Cleaners
ADDRESS: 7613 Lake Street,
CITY/STATE/ZIP: River Forest IL 60305
LAT/LONG: 41.8883 / 87.8151

CUSTOMER: Northern Environmental
CONTACT: Tim Heisler
INQUIRY #: 835266.3s
DATE: August 22, 2002 10:50 am

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
NNE
1/8 - 1/4 Mile
Higher

IL WELLS P6801

Well ID:	033736	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	RIVER FOREST TENNIS CLUB #1		
Permit:	M006880	Date Drilled:	03/20/1969
Depth (in feet):	408	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	12	Plot Location:	4G
Well Use:	CM	Well Type:	
Record Type:	Construction Report,Geology,Chemical Analysis,Any other type of record		
Driller:	LAYNE-WESTERN		

B2
ESE
1/8 - 1/4 Mile
Higher

Site ID:	S101443252
Groundwater Flow:	SW
Deep Water Depth:	17.5
Average Water Depth:	Not Reported
Shallow Water Depth:	3.1
Current Deep Depth:	Not Reported
Current Average Depth:	Not Reported
Current Shallow Depth:	Not Reported
Date:	12/01/1998

AQUIFLOW 62039

B3
ESE
1/8 - 1/4 Mile
Higher

IL WELLS GIL00020586

Info Source:	IL Geological Survey		
API ID:	120310160400	Group Number:	31
Well Type:	Water Well	Boring:	0
X Coord:	3457712	Y Coord:	3227030

B4
ESE
1/8 - 1/4 Mile
Higher

IL WELLS P6800

Well ID:	033712	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	DEAN FOODS/BOWMAN DAIRY CO(MEA		
Permit:	Not Reported	Date Drilled:	00/00/1930
Depth (in feet):	2072	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	12	Plot Location:	3E
Well Use:	IN	Well Type:	
Record Type:	Construction Report,Geology,Chemical Analysis,Indicates comment in owner's field something unusual,Any other type of record		
Driller:	GEIGER		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A5

NNE

1/8 - 1/4 Mile

Higher

IL WELLS

GIL00019925

Info Source:	IL Geological Survey	Group Number:	31
API ID:	120310091800	Boring:	0
Well Type:	Water Well	Y Coord:	3228405
X Coord:	3457115		

B6

ESE

1/8 - 1/4 Mile

Higher

FED USGS

415314087483901

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1930	County:	Cook
Altitude:	631.00 ft.	State:	Illinois
Well Depth:	2072.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Commercial

B7

ESE

1/8 - 1/4 Mile

Higher

FED USGS

415314087483901

BASIC WELL DATA

Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1930	County:	Cook
Altitude:	631.00 ft.	State:	Illinois
Well Depth:	2072.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Commercial

B8

SE

1/4 - 1/2 Mile

Higher

AQUIFLOW

25595

Site ID:	S100527534
Groundwater Flow:	Not Reported
Deep Water Depth:	10
Average Water Depth:	Not Reported
Shallow Water Depth:	9
Current Deep Depth:	11.02
Current Average Depth:	Not Reported
Current Shallow Depth:	6.25
Date:	7/14/98

9

WNW

1/4 - 1/2 Mile

Higher

IL WELLS

GIL00020611

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Info Source:	IL Geological Survey	Group Number:	31
API ID:	120310163000	Boring:	0
Well Type:	Water Well	Y Coord:	3228107
X Coord:	3455554		

10
WSW
1/4 - 1/2 Mile
Higher

IL WELLS P6802

Well ID:	218739	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	RIVER FOREST CITY WELL #3		
Permit:	Not Reported	Date Drilled:	00/00/1921
Depth (in feet):	2150	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	12	Plot Location:	6E
Well Use:	MU	Well Type:	Driven
Record Type:	Geology, Chemical Analysis, Any other type of record		
Driller:	GEIGER		

C11
ESE
1/4 - 1/2 Mile
Higher

IL WELLS P6799

Well ID:	033746	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	WEIBOLDT STORE		
Permit:	Not Reported	Date Drilled:	00/00/1937
Depth (in feet):	1620	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	12	Plot Location:	1E
Well Use:	CM	Well Type:	
Record Type:	Construction Report, Geology, Inventory		
Driller:	THORNE		

C12
East
1/2 - 1 Mile
Higher

IL WELLS GIL00021386

Info Source:	IL Geological Survey	Group Number:	31
API ID:	120310277400	Boring:	0
Well Type:	Water Well	Y Coord:	3227302
X Coord:	3459483		

13
East
1/2 - 1 Mile
Higher

IL WELLS P6922

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well ID:	033758	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	THE FAIR STORE		
Permit:	Not Reported	Date Drilled:	00/00/1937
Depth (in feet):	1623	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	13E
Section:	07	Plot Location:	8F
Well Use:	CM	Well Type:	
Record Type:	Chemical Analysis,Any other type of record		
Driller:	THORNE		

14 SSW 1/2 - 1 Mile Higher	Site ID:	S100051319		
	Groundwater Flow:	NW	AQUIFLOW	25607
	Deep Water Depth:	Not Reported		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	Not Reported		
	Current Deep Depth:	Not Reported		
	Current Average Depth:	7		
	Current Shallow Depth:	Not Reported		
	Date:	9/15/1997		

15
North
1/2 - 1 Mile
Higher **FRDS PWS** **IL0069906**

PWS ID:	IL0069906	PWS Status:	Active
Date Initiated:	June / 77	Date Deactivated:	Not Reported
PWS Name:	THATCHER WOODS GR 4 HP 3137 NSO CHGO AVE WO THATCHER 92023 RIVER FOREST, IL 60305		

Addressee / Facility: Not Reported

Facility Latitude:	41 53 52	Facility Longitude:	087 48 50
City Served:	Not Reported		
Treatment Class:	Untreated	Population:	400

PWS currently has or had major violation(s) or enforcement: No

16
SSW
1/2 - 1 Mile
Higher **IL WELLS** **P6808**

Well ID:	024171	Second ID:	00261
Info Source:	IL Private Water Wells Survey		
Owner:	ALTENHEIM-GERMAN OLD FOLKS HOM		
Permit:	Not Reported	Date Drilled:	11/00/1959
Depth (in feet):	1661	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	13	Plot Location:	7G
Well Use:	CM	Well Type:	ASSUMED DRILLED
Record Type:	Construction Report,Geology,Affidavit,Chemical Analysis,Any other type of record		
Driller:	J P MILLER		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

D17
SSW
1/2 - 1 Mile
Higher

IL WELLS GIL00019426

Info Source:	IL Geological Survey	Group Number:	31
API ID:	120310029100	Boring:	0
Well Type:	Water Well	Y Coord:	3223105
X Coord:	3455626		

D18
South
1/2 - 1 Mile
Higher

IL WELLS P6805

Well ID:	024209	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	FOREST PARK (DEP COULD BE 1668		
Permit:	Not Reported	Date Drilled:	00/00/1892
Depth (in feet):	1650	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	13	Plot Location:	5F
Well Use:	MU	Well Type:	ASSUMED DRILLED
Record Type:	Chemical Analysis,Indicates comment in owner's field something unusual,Any other type of record		
Driller:	Not Reported		

D19
South
1/2 - 1 Mile
Higher

IL WELLS P6806

Well ID:	024210	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	FOREST PARK (DEP COULD BE 2015		
Permit:	Not Reported	Date Drilled:	00/00/1892
Depth (in feet):	2012	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	13	Plot Location:	5F
Well Use:	MU	Well Type:	ASSUMED DRILLED
Record Type:	Geology,Chemical Analysis,Indicates comment in owner's field something unusual,Any other type of record		
Driller:	Not Reported		

D20
South
1/2 - 1 Mile
Higher

IL WELLS P6807

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Well ID:	029569	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	FOREST PARK #3		
Permit:	Not Reported	Date Drilled:	08/00/1924
Depth (in feet):	2114	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	13	Plot Location:	5F
Well Use:	MU	Well Type:	
Record Type:	Geology,Any other type of record		
Driller:	GEIGER		

E21
North
1/2 - 1 Mile
Higher

IL WELLS P6730

Well ID:	218737	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	RIVER FOREST #1		
Permit:	Not Reported	Date Drilled:	00/00/1893
Depth (in feet):	1000	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	01	Plot Location:	Not Reported
Well Use:	MU	Well Type:	--
Record Type:	Geology,Any other type of record		
Driller:	MILLER ARTESIAN WELL		

E22
North
1/2 - 1 Mile
Higher

IL WELLS P6731

Well ID:	218738	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	RIVER FOREST #2		
Permit:	Not Reported	Date Drilled:	00/00/1893
Depth (in feet):	1000	Aquifer Type:	--
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	01	Plot Location:	Not Reported
Well Use:	MU	Well Type:	--
Record Type:	Any other type of record		
Driller:	Not Reported		

D23
SSW
1/2 - 1 Mile
Higher

IL WELLS GIL00022060

Info Source:	IL Geological Survey	Group Number:	31
API ID:	120310402300	Boring:	0
Well Type:	Water Well	Y Coord:	3222796
X Coord:	3455779		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

F24
West
1/2 - 1 Mile
Lower

IL WELLS P6791

Well ID:	029897	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	MODERN MILK STORES		
Permit:	Not Reported	Date Drilled:	02/00/1947
Depth (in feet):	372	Aquifer Type:	Not Reported
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	11	Plot Location:	4F
Well Use:	IN	Well Type:	
Record Type:	Construction Report,Geology		
Driller:	GEIGER		

F25
West
1/2 - 1 Mile
Lower

IL WELLS P6790

Well ID:	023883	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	MODERN MILK STORES		
Permit:	Not Reported	Date Drilled:	02/00/1947
Depth (in feet):	372	Aquifer Type:	Not Reported
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	11	Plot Location:	4F
Well Use:	IN	Well Type:	ASSUMED DRILLED
Record Type:	Construction Report,Geology		
Driller:	GEIGER		

26
WSW
1/2 - 1 Mile
Lower

IL WELLS P6789

Well ID:	033669	Second ID:	Not Reported
Info Source:	IL Private Water Wells Survey		
Owner:	Not Reported		
Permit:	Not Reported	Date Drilled:	00/00/0000
Depth (in feet):	78	Aquifer Type:	Bedrock
County Code:	031	County:	COOK
Township:	39N	Range:	12E
Section:	11	Plot Location:	3B
Well Use:	Not Reported	Well Type:	
Record Type:	Geology,Any other type of record		
Driller:	GUTZLER		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

27 NNW 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Deep Water Depth: Average Water Depth: Shallow Water Depth: Current Deep Depth: Current Average Depth: Current Shallow Depth: Date:	S102620610 Not Reported Not Reported Not Reported 16 Not Reported Not Reported Not Reported 07/22/1992	AQUIFLOW	61929
-------------------------------------	--	--	----------	-------

28 WNW 1/2 - 1 Mile Lower				IL WELLS	P6792
------------------------------------	--	--	--	----------	-------

Well ID: Info Source: Owner: Permit: Depth (in feet): County Code: Township: Section: Well Use: Record Type: Driller:	033670 IL Private Water Wells Survey Not Reported Not Reported 72 031 39N 11 Not Reported Geology, Any other type of record Not Reported	Second ID: Date Drilled: Aquifer Type: County: Range: Plot Location: Well Type:	Not Reported 00/00/0000 Bedrock COOK 12E 4H
---	--	---	--

F29 West 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Deep Water Depth: Average Water Depth: Shallow Water Depth: Current Deep Depth: Current Average Depth: Current Shallow Depth: Date:	S100527691 Not Reported Not Reported 116 Not Reported 87.98 Not Reported 87.93 12/30/1992	AQUIFLOW	62487
--------------------------------------	--	---	----------	-------

30 East 1 - 2 Miles Higher	Site ID: Groundwater Flow: Deep Water Depth: Average Water Depth: Shallow Water Depth: Current Deep Depth: Current Average Depth: Current Shallow Depth: Date:	S100531250 Not Reported Not Reported Not Reported 20 Not Reported Not Reported Not Reported 08/31/1998	AQUIFLOW	61937
-------------------------------------	--	--	----------	-------

G31 North 1 - 2 Miles Higher	Site ID: Groundwater Flow: Deep Water Depth: Average Water Depth: Shallow Water Depth: Current Deep Depth: Current Average Depth: Current Shallow Depth: Date:	S100334367 Not Reported 12 Not Reported 10 12.02 Not Reported 11.10 04/07/1997	AQUIFLOW	62204
---------------------------------------	--	--	----------	-------

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

G32 North 1 - 2 Miles Higher	Site ID:	S100335217		
	Groundwater Flow:	Not Reported	AQUIFLOW	62411
	Deep Water Depth:	10		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	5		
	Current Deep Depth:	8.07		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	5.09		
	Date:	12/31/1997		

33 WNW 1 - 2 Miles Higher	Site ID:	S100335569		
	Groundwater Flow:	Not Reported	AQUIFLOW	62306
	Deep Water Depth:	6		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	4		
	Current Deep Depth:	11.52		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	8.54		
	Date:	02/18/1997		

34 West 1 - 2 Miles Higher	Site ID:	1000887090		
	Groundwater Flow:	Not Reported	AQUIFLOW	62948
	Deep Water Depth:	Not Reported		
	Average Water Depth:	30		
	Shallow Water Depth:	Not Reported		
	Current Deep Depth:	Not Reported		
	Current Average Depth:	30		
	Current Shallow Depth:	Not Reported		
	Date:	09/19/1996		

35 NNE 1 - 2 Miles Higher	Site ID:	S100527521		
	Groundwater Flow:	Not Reported	AQUIFLOW	24898
	Deep Water Depth:	Not Reported		
	Average Water Depth:	8		
	Shallow Water Depth:	Not Reported		
	Current Deep Depth:	9.25		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	4.13		
	Date:	5/1/1998		

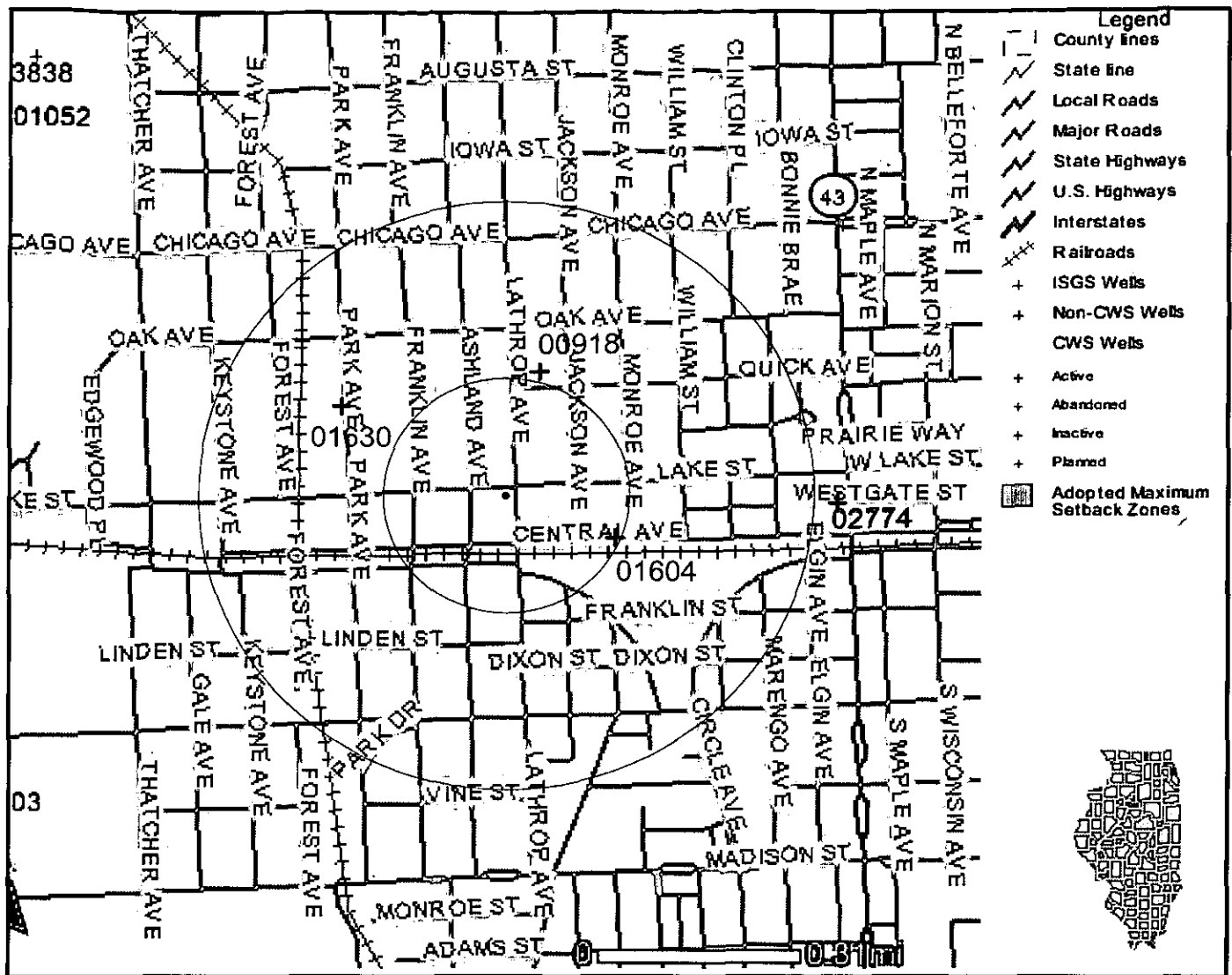
36 West 1 - 2 Miles Higher	Site ID:	S100531144		
	Groundwater Flow:	NE	AQUIFLOW	25681
	Deep Water Depth:	10.90		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	2.63		
	Current Deep Depth:	7.06		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	2.55		
	Date:	1/16/1998		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

37 NE 1 - 2 Miles Higher	Site ID:	S102620557	AQUIFLOW	27095
	Groundwater Flow:	E		
	Deep Water Depth:	7		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	5		
	Current Deep Depth:	7		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	5		
	Date:	04/14/1998		
38 East 1 - 2 Miles Higher	Site ID:	S100055126	AQUIFLOW	56552
	Groundwater Flow:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	7		
	Shallow Water Depth:	Not Reported		
	Current Deep Depth:	Not Reported		
	Current Average Depth:	7		
	Current Shallow Depth:	Not Reported		
	Date:	01/25/1995		
39 East 1 - 2 Miles Higher	Site ID:	S100531256	AQUIFLOW	56593
	Groundwater Flow:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	Not Reported		
	Current Deep Depth:	11.14		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	.85		
	Date:	01/24/1997		
40 SSE 1 - 2 Miles Higher	Site ID:	S100054404	AQUIFLOW	56482
	Groundwater Flow:	Not Reported		
	Deep Water Depth:	4.0		
	Average Water Depth:	Not Reported		
	Shallow Water Depth:	3.5		
	Current Deep Depth:	4.0		
	Current Average Depth:	Not Reported		
	Current Shallow Depth:	3.5		
	Date:	07/22/1994		



The inner circle is a 1,000 foot radius from the Site. The outer circle is a 2,500 foot radius from the Site.

This map was obtained from the Illinois EPA's Source Water Assessment Program (SWAP) database. As the SWAP is a security sensitive database, information on this map should only be used by the Illinois EPA, the Drycleaner Environmental Response Trust Fund of Illinois, Northern Environmental Technologies, Inc. and their client.

Northern EnvironmentalSM Hydrologists • Engineers • Surveyors • Scientists

647 Academy Drive, Northbrook, Illinois
Phone: 847-562-8577 Fax 847-562-8552

WISCONSIN ▲ MICHIGAN ▲ ILLINOIS ▲ IOWA

CREATION DATE: 2/28/05

DRAWN BY: EMP

REVISION DATE:

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WELL LOCATIONS & RECHARGE ZONES

RIVER FOREST CLEANERS
7613 LAKE STREET
RIVER FOREST, ILLINOIS

PROJECT NUMBER: 05-2200-0153

WELL FIGURE


Rod.R.Blagojevich@state.il.us

Rod R. Blagojevich

[Map Server](#)

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Illinois State Geological Survey (ISGS) Well Log Data

API number: 120310091800

For IEPA and USGS use only, do not quote or release.

ISGS Header Table Data

County_no	Farm name	Status	Twp	Tdir	Rng	Rdir	Section	Quarters	Comp date
00918	River Forest Tennis	WATER	39	N	12	E	12	*	0000-00-00

ISGS Well Log Table

County_no	Formation	Thickness	Bottom
*	*	*	*

ISGS Pump Test Data Table

County_no	Pump gpm	Pump hrs	Stat lev	Pump lev	Wformation
*	*	*	*	*	*

ISGS Well Casing Data Table

County_no	Case diam	Case from	Case to	Case type
*	*	*	*	*

ISGS Open Interval Data Table

--	--	--	--	--	--	--

County_no	Scrn diam	Scrn lgth	Slot	Wfmfrom	Wfmto	Wformation
*	*	*	*	*	*	*

key:

* - No Data Available

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[ISGS well data query page](#)

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Rod R. Blagojevich

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Illinois State Geological Survey (ISGS) Well Log Data

API number: 120310163000

For IEPA and USGS use only, do not quote or release.

ISGS Header Table Data

County_no	Farm name	Status	Twp	Tdir	Rng	Rdir	Section	Quarters	Comp date
01630	River Forest Well	WATER	39	N	12	E	12	NW	0000-00-00

ISGS Well Log Table

County_no	Formation	Thickness	Bottom
*	*	*	*

ISGS Pump Test Data Table

County_no	Pump gpm	Pump hrs	Stat levl	Pump levl	Wformation
*	*	*	*	*	*

ISGS Well Casing Data Table

County_no	Case diam	Case from	Case to	Case type
*	*	*	*	*

ISGS Open Interval Data Table

--	--	--	--	--	--	--	--

County_no	Scrn diam	Scrn lgth	Slot	Wfmfrom	Wfmto	Wformation
*	*	*	*	*	*	*

key:

* - No Data Available

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Illinois State Geological Survey (ISGS) Well Log Data

API number: 120310277400

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ISGS Header Table Data

County_no	Farm name	Status	Twp	Tdir	Rng	Rdir	Section	Quarters	Comp date
02774	Wieboldts Store	WATER	39	N	12	E	12	*	0000-00-00

ISGS Well Log Table

County_no	Formation	Thickness	Bottom
*	*	*	*

ISGS Pump Test Data Table

County_no	Pump gpm	Pump hrs	Stat levl	Pump levl	Wformation
*	*	*	*	*	*

ISGS Well Casing Data Table

County_no	Case diam	Case from	Case to	Case type
*	*	*	*	*

ISGS Open Interval Data Table

County_no	Scrn diam	Scrn lgth	Slot	Wfmfrom	Wfmto	Wformation

*	*	*	*	*	*	*
---	---	---	---	---	---	---

key:

* - No Data Available

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ISGS well data query page

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Cook County Department of Public Health

1010 Lake Street, Suite 300, Oak Park, Illinois 60301
708.492.2000 • TDD 708.492.2002

Cook County Bureau of Health Services



John H. Stroger, Jr.

President
Board of Cook County Commissioners

Daniel H. Winship, M.D.

Chief
Bureau of Health Services

Stephen A. Martin, Jr., Ph.D., M.P.H.

Chief Operating Officer

February 17, 2005

Mr. Dhaval Shah
Northern Environmental
647 Academy Drive
Northbrook, IL 60062

Dear Dhaval:

Per your request for records in accordance with the Freedom of Information Act, we have no records relevant to your request.

If our agency can be of any further assistance to you, please feel free to contact me at (708) 492-2261.

Sincerely,

A handwritten signature in black ink, appearing to read "John D. Carr".

John D. Carr, Esq.
Freedom of Information Officer

01/31/05
(05-2200-0153)

Attn: Freedom of Information Department
Cook County Department of Public Health
1010 Lake Street, Suite # 300
Oak Park, Illinois 60301-1133

RE: Freedom of Information Act Request

Dear Sir / madam,

Please consider this letter a request under the Freedom of Information Act for the location of community water supply wells within a radius of 2,500 feet of the Site. In addition, please include the corresponding setback zones for each listed well. Please verify if any Class III ground water exists within 2,500 feet of the site listed below. Also, please state if the site referenced is located within a regulated recharge area of any community water supply well.

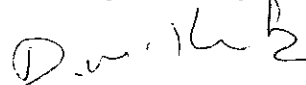
LOCATION OF SITE

Site Address: 7613 Lake Street, River Forest, IL
County: Cook
Quarter/Quarter Sections SE 1/4 of NW 1/4 of Section 12
Township: T39N
Range: R12E

Enclosed is a map illustrating the location of the Site.

Please send the requested information to my attention at the address indicated on the letterhead. If you have any questions regarding this request, please contact the undersigned at (847) 562-8577.

Sincerely,
**Northern Environmental
Technologies, Incorporated**



Dhaval M. Shah
Environmental Engineer

Enclosure

February 8, 2005



Mr. Dhaval Shah
Northern Environmental Technologies, Inc.
647 Academy Drive
Northbrook, IL 60062

Re: Freedom of Information Request

Dear Mr. Shah:

Gregory W. Kramer, P.E.
Director of Public Works



Printed on
recycled paper.

The Village of River Forest does not own, operate, or maintain any community water supply wells within a radius of 2,500 feet of 7613 Lake Street, River Forest, IL 60305. The Village purchases all of its water from the City of Chicago, which treats water from Lake Michigan. In response to your inquiry about Class III groundwater, and per section 5-11-17 of the Village's Code, "the use of groundwater as a potable water supply by the installation or use of potable water supply wells or by any other method is prohibited."

Very truly yours,

VILLAGE OF RIVER FOREST

Philip W. Cotter
Assistant Director of Public Works

01/31/05
(05-2200-0153)

Attn: MR. Phil Cotter
Assistant Director of Public Works
Department of Public Works
400 Park Avenue
River Forest, Illinois 60305

RE: Freedom of Information Act Request

Dear Mr. Cotter,

Please consider this letter a request under the Freedom of Information Act for the location of community water supply wells within a radius of 2,500 feet of the Site. In addition, please include the corresponding setback zones for each listed well. Please verify if any Class III ground water exists within 2,500 feet of the site listed below. Also, please state if the site referenced is located within a regulated recharge area of any community water supply well.

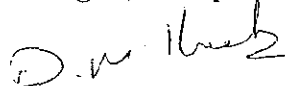
LOCATION OF SITE

Site Address: 7613 Lake Street, River Forest, IL
County: Cook
Quarter/Quarter Sections SE 1/4 of NW 1/4 of Section 12
Township: T39N
Range: R12E

Enclosed is a map illustrating the location of the Site.

Please send the requested information to my attention at the address indicated on the letterhead. If you have any questions regarding this request, please contact the undersigned at (847) 562-8577.

Sincerely,
**Northern Environmental
Technologies, Incorporated**



Dhaval M. Shah
Environmental Engineer

Enclosure



Northern EnvironmentalSM

Hydrologists - Engineers - Surveyors - Scientists

647 Academy Drive, Northbrook, IL 60062
(847) 562 8577 telephone (847) 562 8552 fax
mneuses@northernenvironmental.com

February 15, 2006
05-2200-0153

Ms. Janet Christer
FOIA Coordinator, Manager's Office
Illinois Environmental Protection Agency
Bureau of Water, Division of Public Water Supply
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

RE: Freedom of Information Act Request; Land Pollution Control 0312615005 Cook County

Dear Ms. Christer,

Please consider this letter a request under the Freedom of Information Act for the location of community water supply wells within a radius of 2,500 feet of the Site. In addition, please include the corresponding setback zones for each listed well. Please verify if any Class III ground water exists within 2,500 feet of the site listed below. Also, please state if the site referenced is located within a regulated recharge area of any community water supply well.

LOCATION OF SITE

Site Address: 7613 Lake Street, River Forest, Illinois 60305_____
County: Cook_____
Quarter/Quarter Sections 41° 53' 19" & 84° 48' 87" (latitude/longitude)_____
Township: Township 39 North_____
Range: Range 12 East_____

Enclosed is a map illustrating the location of the Site.

Please send the requested information to my attention at the address indicated on the letterhead. If you have any questions regarding this request, please contact the undersigned at (847) 562-8577.

Sincerely,
**Northern Environmental
Technologies, Incorporated**

Mark G. Neuses
Project Scientist

CMF/red
Enclosure

Appendix E Laboratory Analytical Reports

Report of Analysis

Client Sample ID:	TT-100-0608		
Lab Sample ID:	MC44516-1	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	94.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95247.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.15 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	53	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	530	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	530	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane	ND	530	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	530	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
100-42-5	Styrene	ND	530	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	210	ug/kg	
127-18-4	Tetrachloroethene	2510	210	ug/kg	
108-88-3	Toluene	ND	530	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	267	210	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-100-0608		
Lab Sample ID:	MC44516-1	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	94.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	93%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-100-1012							
Lab Sample ID: MC44516-2					Date Sampled: 02/17/16		
Matrix: SO - Soil					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: 90.7		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95248.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.23 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	940	ug/kg	
71-43-2	Benzene	ND	47	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	940	ug/kg	
75-15-0	Carbon disulfide	ND	470	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	ND	190	ug/kg	
75-00-3	Chloroethane	ND	470	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane	ND	470	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	4460	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
591-78-6	2-Hexanone	ND	940	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	470	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
100-42-5	Styrene	ND	470	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	2490	190	ug/kg	
108-88-3	Toluene	ND	470	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	420	190	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-100-1012	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-2	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	90.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	264	190	ug/kg	
1330-20-7	Xylene (total)	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-100-1118	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-3	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95249.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.12 g	10.0 ml	10.0 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10000	ug/kg	
71-43-2	Benzene	ND	510	ug/kg	
75-27-4	Bromodichloromethane	ND	2000	ug/kg	
75-25-2	Bromoform	ND	2000	ug/kg	
74-83-9	Bromomethane	ND	2000	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10000	ug/kg	
75-15-0	Carbon disulfide	ND	5100	ug/kg	
56-23-5	Carbon tetrachloride	ND	2000	ug/kg	
108-90-7	Chlorobenzene	ND	2000	ug/kg	
75-00-3	Chloroethane	ND	5100	ug/kg	
67-66-3	Chloroform	ND	2000	ug/kg	
74-87-3	Chloromethane	ND	5100	ug/kg	
124-48-1	Dibromochloromethane	ND	2000	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2000	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2000	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2000	ug/kg	
156-59-2	cis-1,2-Dichloroethene	6920	2000	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2000	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2000	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2000	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2000	ug/kg	
100-41-4	Ethylbenzene	ND	2000	ug/kg	
591-78-6	2-Hexanone	ND	10000	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5100	ug/kg	
75-09-2	Methylene chloride	ND	2000	ug/kg	
100-42-5	Styrene	ND	5100	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2000	ug/kg	
127-18-4	Tetrachloroethene	239000	2000	ug/kg	
108-88-3	Toluene	ND	5100	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2000	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2000	ug/kg	
79-01-6	Trichloroethene	18700	2000	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-100-1118	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-3	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2000	ug/kg	
1330-20-7	Xylene (total)	ND	2000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-101-0608							
Lab Sample ID: MC44516-4					Date Sampled: 02/17/16		
Matrix: SO - Soil					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: 92.4		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76619.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.36 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	10	ug/kg	
71-43-2	Benzene	5.9	0.50	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	20	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	2.6	2.0	ug/kg	
591-78-6	2-Hexanone ^b	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	327	2.0	ug/kg	
108-88-3	Toluene	9.5	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	6.3	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-101-0608	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-4	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	92.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	5.4	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		65-141%
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	130%		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-101-1214		
Lab Sample ID:	MC44516-5	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	87.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95250.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.22 g	10.0 ml	20.0 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5800	ug/kg	
71-43-2	Benzene	ND	290	ug/kg	
75-27-4	Bromodichloromethane	ND	1200	ug/kg	
75-25-2	Bromoform	ND	1200	ug/kg	
74-83-9	Bromomethane	ND	1200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5800	ug/kg	
75-15-0	Carbon disulfide	ND	2900	ug/kg	
56-23-5	Carbon tetrachloride	ND	1200	ug/kg	
108-90-7	Chlorobenzene	ND	1200	ug/kg	
75-00-3	Chloroethane	ND	2900	ug/kg	
67-66-3	Chloroform	ND	1200	ug/kg	
74-87-3	Chloromethane	ND	2900	ug/kg	
124-48-1	Dibromochloromethane	ND	1200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	1390	1200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1200	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1200	ug/kg	
100-41-4	Ethylbenzene	ND	1200	ug/kg	
591-78-6	2-Hexanone	ND	5800	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2900	ug/kg	
75-09-2	Methylene chloride	ND	1200	ug/kg	
100-42-5	Styrene	ND	2900	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1200	ug/kg	
127-18-4	Tetrachloroethene	195000	1200	ug/kg	
108-88-3	Toluene	ND	2900	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1200	ug/kg	
79-01-6	Trichloroethene	6160	1200	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-101-1214		
Lab Sample ID:	MC44516-5	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	87.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1200	ug/kg	
1330-20-7	Xylene (total)	ND	1200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-101-2022		
Lab Sample ID:	MC44516-6	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	87.2
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95251.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2	K95297.D	1	03/01/16	TB	n/a	n/a	MSK2931

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.17 g	10.0 ml	20.0 ul
Run #2	5.17 g	10.0 ml	5.0 ul

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5900	ug/kg	
71-43-2	Benzene	ND	300	ug/kg	
75-27-4	Bromodichloromethane	ND	1200	ug/kg	
75-25-2	Bromoform	ND	1200	ug/kg	
74-83-9	Bromomethane	ND	1200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5900	ug/kg	
75-15-0	Carbon disulfide	ND	3000	ug/kg	
56-23-5	Carbon tetrachloride	ND	1200	ug/kg	
108-90-7	Chlorobenzene	ND	1200	ug/kg	
75-00-3	Chloroethane	ND	3000	ug/kg	
67-66-3	Chloroform	ND	1200	ug/kg	
74-87-3	Chloromethane	ND	3000	ug/kg	
124-48-1	Dibromochloromethane	ND	1200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	8230	1200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1200	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1200	ug/kg	
100-41-4	Ethylbenzene	ND	1200	ug/kg	
591-78-6	2-Hexanone	ND	5900	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	3000	ug/kg	
75-09-2	Methylene chloride	ND	1200	ug/kg	
100-42-5	Styrene	ND	3000	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1200	ug/kg	
127-18-4	Tetrachloroethene	226000 ^a	4700	ug/kg	
108-88-3	Toluene	ND	3000	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1200	ug/kg	
79-01-6	Trichloroethene	10200	1200	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-101-2022		
Lab Sample ID:	MC44516-6	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	87.2
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1200	ug/kg	
1330-20-7	Xylene (total)	ND	1200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	114%	65-141%
2037-26-5	Toluene-D8	97%	98%	65-129%
460-00-4	4-Bromofluorobenzene	95%	94%	63-137%

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-0002		
Lab Sample ID:	MC44516-7	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	77.3
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95252.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.32 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1400	ug/kg	
71-43-2	Benzene	ND	68	ug/kg	
75-27-4	Bromodichloromethane	ND	270	ug/kg	
75-25-2	Bromoform	ND	270	ug/kg	
74-83-9	Bromomethane	ND	270	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1400	ug/kg	
75-15-0	Carbon disulfide	ND	680	ug/kg	
56-23-5	Carbon tetrachloride	ND	270	ug/kg	
108-90-7	Chlorobenzene	ND	270	ug/kg	
75-00-3	Chloroethane	ND	680	ug/kg	
67-66-3	Chloroform	ND	270	ug/kg	
74-87-3	Chloromethane	ND	680	ug/kg	
124-48-1	Dibromochloromethane	ND	270	ug/kg	
75-34-3	1,1-Dichloroethane	ND	270	ug/kg	
107-06-2	1,2-Dichloroethane	ND	270	ug/kg	
75-35-4	1,1-Dichloroethene	ND	270	ug/kg	
156-59-2	cis-1,2-Dichloroethene	4840	270	ug/kg	
156-60-5	trans-1,2-Dichloroethene	330	270	ug/kg	
78-87-5	1,2-Dichloropropane	ND	270	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	270	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	270	ug/kg	
100-41-4	Ethylbenzene	ND	270	ug/kg	
591-78-6	2-Hexanone	ND	1400	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	680	ug/kg	
75-09-2	Methylene chloride	ND	270	ug/kg	
100-42-5	Styrene	ND	680	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	270	ug/kg	
127-18-4	Tetrachloroethene	2940	270	ug/kg	
108-88-3	Toluene	ND	680	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	270	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	270	ug/kg	
79-01-6	Trichloroethene	510	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-0002	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-7	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	270	ug/kg	
1330-20-7	Xylene (total)	ND	270	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-102-0608							
Lab Sample ID: MC44516-8					Date Sampled: 02/17/16		
Matrix: SO - Soil					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: 95.0		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95253.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.41 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1000	ug/kg	
71-43-2	Benzene	ND	50	ug/kg	
75-27-4	Bromodichloromethane	ND	200	ug/kg	
75-25-2	Bromoform	ND	200	ug/kg	
74-83-9	Bromomethane	ND	200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1000	ug/kg	
75-15-0	Carbon disulfide	ND	500	ug/kg	
56-23-5	Carbon tetrachloride	ND	200	ug/kg	
108-90-7	Chlorobenzene	ND	200	ug/kg	
75-00-3	Chloroethane	ND	500	ug/kg	
67-66-3	Chloroform	ND	200	ug/kg	
74-87-3	Chloromethane	ND	500	ug/kg	
124-48-1	Dibromochloromethane	ND	200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	200	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	200	ug/kg	
100-41-4	Ethylbenzene	ND	200	ug/kg	
591-78-6	2-Hexanone	ND	1000	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	ug/kg	
75-09-2	Methylene chloride	ND	200	ug/kg	
100-42-5	Styrene	ND	500	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	ug/kg	
127-18-4	Tetrachloroethene	10900	200	ug/kg	
108-88-3	Toluene	ND	500	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	200	ug/kg	
79-01-6	Trichloroethene	ND	200	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-0608	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-8	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	95.0
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	200	ug/kg	
1330-20-7	Xylene (total)	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-1012	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-9	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95254.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.51 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	56	ug/kg	
75-27-4	Bromodichloromethane	ND	220	ug/kg	
75-25-2	Bromoform	ND	220	ug/kg	
74-83-9	Bromomethane	ND	220	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	560	ug/kg	
56-23-5	Carbon tetrachloride	ND	220	ug/kg	
108-90-7	Chlorobenzene	ND	220	ug/kg	
75-00-3	Chloroethane	ND	560	ug/kg	
67-66-3	Chloroform	ND	220	ug/kg	
74-87-3	Chloromethane	ND	560	ug/kg	
124-48-1	Dibromochloromethane	ND	220	ug/kg	
75-34-3	1,1-Dichloroethane	ND	220	ug/kg	
107-06-2	1,2-Dichloroethane	ND	220	ug/kg	
75-35-4	1,1-Dichloroethene	ND	220	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	220	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	220	ug/kg	
78-87-5	1,2-Dichloropropane	ND	220	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	220	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	220	ug/kg	
100-41-4	Ethylbenzene	ND	220	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	560	ug/kg	
75-09-2	Methylene chloride	ND	220	ug/kg	
100-42-5	Styrene	ND	560	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	220	ug/kg	
127-18-4	Tetrachloroethene	14400	220	ug/kg	
108-88-3	Toluene	ND	560	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	220	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	220	ug/kg	
79-01-6	Trichloroethene	275	220	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-1012		
Lab Sample ID:	MC44516-9	Date Sampled:	02/17/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	86.7
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	220	ug/kg	
1330-20-7	Xylene (total)	ND	220	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-102-1214			
Lab Sample ID: MC44516-10		Date Sampled:	02/17/16
Matrix: SO - Soil		Date Received:	02/24/16
Method: SW846 8260C		Percent Solids:	86.1
Project: River Forest, 7613 Lake Street, River Forest, IL			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76620.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.88 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	9.9	ug/kg	
71-43-2	Benzene	ND	0.49	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	20	ug/kg	
75-15-0	Carbon disulfide	ND	4.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	4.9	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	4.9	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone ^b	ND	9.9	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.9	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	4.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	4.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-102-1214	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-10	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	91%		65-129%
460-00-4	4-Bromofluorobenzene	142% ^c		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(c) Outside control limits. Associated target analytes are non-detect.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-100							
Lab Sample ID: MC44516-11					Date Sampled: 02/17/16		
Matrix: AQ - Ground Water					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: n/a		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100011.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2	N100049.D	50	02/29/16	CB	n/a	n/a	MSN3656

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	1.1	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	87.4	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	5630 ^a	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	101	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	2140 ^a	50	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	1410 ^a	50	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-100	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-11	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	948 ^a	50	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	99%	79-127%
2037-26-5	Toluene-D8	100%	99%	80-116%
460-00-4	4-Bromofluorobenzene	101%	105%	77-124%

(a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-101	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-12	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100012.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	79.4	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	303	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	42.7	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-101	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-12	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride ^a	7.4	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

(a) Continuing Calibration outside of acceptance criteria. Result may be biased high.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-103-0002	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-13	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95255.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.52 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1600	ug/kg	
71-43-2	Benzene	ND	79	ug/kg	
75-27-4	Bromodichloromethane	ND	310	ug/kg	
75-25-2	Bromoform	ND	310	ug/kg	
74-83-9	Bromomethane	ND	310	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1600	ug/kg	
75-15-0	Carbon disulfide	ND	790	ug/kg	
56-23-5	Carbon tetrachloride	ND	310	ug/kg	
108-90-7	Chlorobenzene	ND	310	ug/kg	
75-00-3	Chloroethane	ND	790	ug/kg	
67-66-3	Chloroform	ND	310	ug/kg	
74-87-3	Chloromethane	ND	790	ug/kg	
124-48-1	Dibromochloromethane	ND	310	ug/kg	
75-34-3	1,1-Dichloroethane	ND	310	ug/kg	
107-06-2	1,2-Dichloroethane	ND	310	ug/kg	
75-35-4	1,1-Dichloroethene	ND	310	ug/kg	
156-59-2	cis-1,2-Dichloroethene	9360	310	ug/kg	
156-60-5	trans-1,2-Dichloroethene	2350	310	ug/kg	
78-87-5	1,2-Dichloropropane	ND	310	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	310	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	310	ug/kg	
100-41-4	Ethylbenzene	ND	310	ug/kg	
591-78-6	2-Hexanone	ND	1600	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	790	ug/kg	
75-09-2	Methylene chloride	ND	310	ug/kg	
100-42-5	Styrene	ND	790	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	310	ug/kg	
127-18-4	Tetrachloroethene	5030	310	ug/kg	
108-88-3	Toluene	ND	790	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	310	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	310	ug/kg	
79-01-6	Trichloroethene	3490	310	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-103-0002	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-13	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	3940	310	ug/kg	
1330-20-7	Xylene (total)	ND	310	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-103-0406	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-14	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	88.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95256.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.55 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	54	ug/kg	
75-27-4	Bromodichloromethane	ND	220	ug/kg	
75-25-2	Bromoform	ND	220	ug/kg	
74-83-9	Bromomethane	ND	220	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	540	ug/kg	
56-23-5	Carbon tetrachloride	ND	220	ug/kg	
108-90-7	Chlorobenzene	ND	220	ug/kg	
75-00-3	Chloroethane	ND	540	ug/kg	
67-66-3	Chloroform	ND	220	ug/kg	
74-87-3	Chloromethane	ND	540	ug/kg	
124-48-1	Dibromochloromethane	ND	220	ug/kg	
75-34-3	1,1-Dichloroethane	ND	220	ug/kg	
107-06-2	1,2-Dichloroethane	ND	220	ug/kg	
75-35-4	1,1-Dichloroethene	ND	220	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	220	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	220	ug/kg	
78-87-5	1,2-Dichloropropane	ND	220	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	220	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	220	ug/kg	
100-41-4	Ethylbenzene	ND	220	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	540	ug/kg	
75-09-2	Methylene chloride	ND	220	ug/kg	
100-42-5	Styrene	ND	540	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	220	ug/kg	
127-18-4	Tetrachloroethene	1230	220	ug/kg	
108-88-3	Toluene	ND	540	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	220	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	220	ug/kg	
79-01-6	Trichloroethene	ND	220	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-103-0406	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-14	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	88.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	220	ug/kg	
1330-20-7	Xylene (total)	ND	220	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-0608	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-15	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76621.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.51 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^a	ND	9.9	ug/kg	
71-43-2	Benzene	4.3	0.50	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK) ^a	ND	20	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone ^a	ND	9.9	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	2.0	2.0	ug/kg	
108-88-3	Toluene	6.6	5.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-0608		
Lab Sample ID:	MC44516-15	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	91.6
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	4.1	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	117%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-102	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-16	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100036.D	1	02/29/16	CB	n/a	n/a	MSN3657
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	2.3	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	52.9	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	2.6	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-102	Date Sampled:	02/17/16
Lab Sample ID:	MC44516-16	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		79-127%
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	96%		77-124%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-107-0204	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-17	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	82.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95257.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.51 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	61	ug/kg	
75-27-4	Bromodichloromethane	ND	240	ug/kg	
75-25-2	Bromoform	ND	240	ug/kg	
74-83-9	Bromomethane	ND	240	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
75-15-0	Carbon disulfide	ND	610	ug/kg	
56-23-5	Carbon tetrachloride	ND	240	ug/kg	
108-90-7	Chlorobenzene	ND	240	ug/kg	
75-00-3	Chloroethane	ND	610	ug/kg	
67-66-3	Chloroform	ND	240	ug/kg	
74-87-3	Chloromethane	ND	610	ug/kg	
124-48-1	Dibromochloromethane	ND	240	ug/kg	
75-34-3	1,1-Dichloroethane	ND	240	ug/kg	
107-06-2	1,2-Dichloroethane	ND	240	ug/kg	
75-35-4	1,1-Dichloroethene	ND	240	ug/kg	
156-59-2	cis-1,2-Dichloroethene	11200	240	ug/kg	
156-60-5	trans-1,2-Dichloroethene	909	240	ug/kg	
78-87-5	1,2-Dichloropropane	ND	240	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	240	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	240	ug/kg	
100-41-4	Ethylbenzene	ND	240	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	610	ug/kg	
75-09-2	Methylene chloride	ND	240	ug/kg	
100-42-5	Styrene	ND	610	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	240	ug/kg	
127-18-4	Tetrachloroethene	21300	240	ug/kg	
108-88-3	Toluene	ND	610	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	240	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	240	ug/kg	
79-01-6	Trichloroethene	6800	240	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-107-0204	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-17	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	82.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	823	240	ug/kg	
1330-20-7	Xylene (total)	ND	240	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-106-0406	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-18	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95258.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.81 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	54	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	540	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	540	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane	ND	540	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	540	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
100-42-5	Styrene	ND	540	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	210	ug/kg	
127-18-4	Tetrachloroethene	870	210	ug/kg	
108-88-3	Toluene	ND	540	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	ND	210	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-106-0406		
Lab Sample ID:	MC44516-18	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	86.4
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	97%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-106-0406	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-18A	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.4
Method:	SW846 8260C SW846 1311		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H78913.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.10	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	1.0	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.20	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.20	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.20	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.20	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.20	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.20	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.20	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.20	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		74-135%
2037-26-5	Toluene-D8	97%		83-116%
460-00-4	4-Bromofluorobenzene	104%		76-124%

ND = Not detected

MCL = Maximum Contamination Level (40 CFR 261 6/96)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-107-0608							
Lab Sample ID: MC44516-19					Date Sampled: 02/18/16		
Matrix: SO - Soil					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: 82.0		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95259.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.56 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1000	ug/kg	
71-43-2	Benzene	ND	52	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1000	ug/kg	
75-15-0	Carbon disulfide	ND	520	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	520	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane	ND	520	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
591-78-6	2-Hexanone	ND	1000	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	520	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
100-42-5	Styrene	ND	520	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	210	ug/kg	
127-18-4	Tetrachloroethene	2390	210	ug/kg	
108-88-3	Toluene	ND	520	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	ND	210	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-107-0608		
Lab Sample ID:	MC44516-19	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	82.0
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	96%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-107-0608	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-19A	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	82.0
Method:	SW846 8260C SW846 1311		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H78914.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.10	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	1.0	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.20	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.20	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.20	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.20	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.20	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.20	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.20	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.20	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		74-135%
2037-26-5	Toluene-D8	94%		83-116%
460-00-4	4-Bromofluorobenzene	105%		76-124%

ND = Not detected

MCL = Maximum Contamination Level (40 CFR 261 6/96)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-109-0608		
Lab Sample ID:	MC44516-20	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	92.1
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M76622.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.51 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^a	ND	9.9	ug/kg	
71-43-2	Benzene	3.4	0.49	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK) ^a	ND	20	ug/kg	
75-15-0	Carbon disulfide	ND	4.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	4.9	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	4.9	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone ^a	ND	9.9	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.9	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	4.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	5.3	2.0	ug/kg	
108-88-3	Toluene	ND	4.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-109-0608	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-20	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	2.3	2.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%		65-141%
2037-26-5	Toluene-D8	93%		65-129%
460-00-4	4-Bromofluorobenzene	130%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-0002		
Lab Sample ID:	MC44516-21	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	77.9
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76623.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.34 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	154	12	ug/kg	
71-43-2	Benzene	1.5	0.60	ug/kg	
75-27-4	Bromodichloromethane	ND	2.4	ug/kg	
75-25-2	Bromoform	ND	2.4	ug/kg	
74-83-9	Bromomethane	ND	2.4	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	24	ug/kg	
75-15-0	Carbon disulfide	9.9	6.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.4	ug/kg	
108-90-7	Chlorobenzene	ND	2.4	ug/kg	
75-00-3	Chloroethane	ND	6.0	ug/kg	
67-66-3	Chloroform	ND	2.4	ug/kg	
74-87-3	Chloromethane	ND	6.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.4	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.4	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.4	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.4	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.4	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.4	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.4	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.4	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.4	ug/kg	
100-41-4	Ethylbenzene	ND	2.4	ug/kg	
591-78-6	2-Hexanone ^c	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.0	ug/kg	
75-09-2	Methylene chloride	ND	2.4	ug/kg	
100-42-5	Styrene	ND	6.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.4	ug/kg	
127-18-4	Tetrachloroethene	ND	2.4	ug/kg	
108-88-3	Toluene	ND	6.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.4	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.4	ug/kg	
79-01-6	Trichloroethene	ND	2.4	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-0002	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-21	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.9
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.4	ug/kg	
1330-20-7	Xylene (total)	ND	2.4	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	129%		65-141%
2037-26-5	Toluene-D8	85%		65-129%
460-00-4	4-Bromofluorobenzene	160% ^d		63-137%

- (a) Preliminary results.
- (b) Continuing Calibration outside of acceptance criteria. Result biased low.
- (c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.
- (d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-104-0608							
Lab Sample ID: MC44516-22					Date Sampled: 02/18/16		
Matrix: SO - Soil					Date Received: 02/24/16		
Method: SW846 8260C					Percent Solids: 93.8		
Project: River Forest, 7613 Lake Street, River Forest, IL							

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95260.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.70 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	970	ug/kg	
71-43-2	Benzene	ND	48	ug/kg	
75-27-4	Bromodichloromethane	ND	190	ug/kg	
75-25-2	Bromoform	ND	190	ug/kg	
74-83-9	Bromomethane	ND	190	ug/kg	
78-93-3	2-Butanone (MEK)	ND	970	ug/kg	
75-15-0	Carbon disulfide	ND	480	ug/kg	
56-23-5	Carbon tetrachloride	ND	190	ug/kg	
108-90-7	Chlorobenzene	ND	190	ug/kg	
75-00-3	Chloroethane	ND	480	ug/kg	
67-66-3	Chloroform	ND	190	ug/kg	
74-87-3	Chloromethane	ND	480	ug/kg	
124-48-1	Dibromochloromethane	ND	190	ug/kg	
75-34-3	1,1-Dichloroethane	ND	190	ug/kg	
107-06-2	1,2-Dichloroethane	ND	190	ug/kg	
75-35-4	1,1-Dichloroethene	ND	190	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	190	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	190	ug/kg	
78-87-5	1,2-Dichloropropane	ND	190	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	190	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	190	ug/kg	
100-41-4	Ethylbenzene	ND	190	ug/kg	
591-78-6	2-Hexanone	ND	970	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	480	ug/kg	
75-09-2	Methylene chloride	ND	190	ug/kg	
100-42-5	Styrene	ND	480	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	190	ug/kg	
127-18-4	Tetrachloroethene	671	190	ug/kg	
108-88-3	Toluene	ND	480	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	190	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	190	ug/kg	
79-01-6	Trichloroethene	ND	190	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-0608	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-22	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	93.8
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	190	ug/kg	
1330-20-7	Xylene (total)	ND	190	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		65-141%
2037-26-5	Toluene-D8	95%		65-129%
460-00-4	4-Bromofluorobenzene	96%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-105-0002		
Lab Sample ID:	MC44516-23	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	77.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76624.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.21 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	74.7	12	ug/kg	
71-43-2	Benzene	ND	0.62	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	ug/kg	
75-25-2	Bromoform	ND	2.5	ug/kg	
74-83-9	Bromomethane	ND	2.5	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	25	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	ug/kg	
75-00-3	Chloroethane	ND	6.2	ug/kg	
67-66-3	Chloroform	ND	2.5	ug/kg	
74-87-3	Chloromethane	ND	6.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.5	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethene	16.3	2.5	ug/kg	
156-60-5	trans-1,2-Dichloroethene	8.7	2.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	ug/kg	
100-41-4	Ethylbenzene	ND	2.5	ug/kg	
591-78-6	2-Hexanone ^c	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.2	ug/kg	
75-09-2	Methylene chloride	ND	2.5	ug/kg	
100-42-5	Styrene	ND	6.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	ug/kg	
127-18-4	Tetrachloroethene	ND	2.5	ug/kg	
108-88-3	Toluene	ND	6.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	ug/kg	
79-01-6	Trichloroethene	3.4	2.5	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-105-0002	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-23	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.8
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	11.4	2.5	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	103%		63-137%

- (a) Preliminary results.
(b) Continuing Calibration outside of acceptance criteria. Result biased low.
(c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-105-0002		
Lab Sample ID:	MC44516-23A	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C SW846 1311	Percent Solids:	77.8
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H78915.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.10	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	1.0	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.20	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.20	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.20	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.20	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.20	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.20	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.20	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.20	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		74-135%
2037-26-5	Toluene-D8	96%		83-116%
460-00-4	4-Bromofluorobenzene	105%		76-124%

ND = Not detected

MCL = Maximum Contamination Level (40 CFR 261.6/96)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-105-0608		
Lab Sample ID:	MC44516-24	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	95.1
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95261.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.70 g	10.0 ml	50.0 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1900	ug/kg	
71-43-2	Benzene	ND	95	ug/kg	
75-27-4	Bromodichloromethane	ND	380	ug/kg	
75-25-2	Bromoform	ND	380	ug/kg	
74-83-9	Bromomethane	ND	380	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1900	ug/kg	
75-15-0	Carbon disulfide	ND	950	ug/kg	
56-23-5	Carbon tetrachloride	ND	380	ug/kg	
108-90-7	Chlorobenzene	ND	380	ug/kg	
75-00-3	Chloroethane	ND	950	ug/kg	
67-66-3	Chloroform	ND	380	ug/kg	
74-87-3	Chloromethane	ND	950	ug/kg	
124-48-1	Dibromochloromethane	ND	380	ug/kg	
75-34-3	1,1-Dichloroethane	ND	380	ug/kg	
107-06-2	1,2-Dichloroethane	ND	380	ug/kg	
75-35-4	1,1-Dichloroethene	ND	380	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	380	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	380	ug/kg	
78-87-5	1,2-Dichloropropane	ND	380	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	380	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	380	ug/kg	
100-41-4	Ethylbenzene	ND	380	ug/kg	
591-78-6	2-Hexanone	ND	1900	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	950	ug/kg	
75-09-2	Methylene chloride	ND	380	ug/kg	
100-42-5	Styrene	ND	950	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	380	ug/kg	
127-18-4	Tetrachloroethene	52100	380	ug/kg	
108-88-3	Toluene	ND	950	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	380	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	380	ug/kg	
79-01-6	Trichloroethene	579	380	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-105-0608	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-24	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	95.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	380	ug/kg	
1330-20-7	Xylene (total)	ND	380	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-109-0002			
Lab Sample ID: MC44516-25		Date Sampled: 02/18/16	
Matrix: SO - Soil		Date Received: 02/24/16	
Method: SW846 8260C		Percent Solids: 81.2	
Project: River Forest, 7613 Lake Street, River Forest, IL			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76625.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.94 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	74.8	10	ug/kg	
71-43-2	Benzene	ND	0.52	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform	ND	2.1	ug/kg	
74-83-9	Bromomethane	ND	2.1	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	21	ug/kg	
75-15-0	Carbon disulfide	ND	5.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.2	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
74-87-3	Chloromethane	ND	5.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
591-78-6	2-Hexanone ^c	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.2	ug/kg	
75-09-2	Methylene chloride	ND	2.1	ug/kg	
100-42-5	Styrene	ND	5.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	5.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
79-01-6	Trichloroethene	ND	2.1	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-109-0002		
Lab Sample ID:	MC44516-25	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	81.2
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	101%		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Result biased low.

(c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-106-0204	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-26	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	77.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95262.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1400	ug/kg	
71-43-2	Benzene	ND	71	ug/kg	
75-27-4	Bromodichloromethane	ND	290	ug/kg	
75-25-2	Bromoform	ND	290	ug/kg	
74-83-9	Bromomethane	ND	290	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1400	ug/kg	
75-15-0	Carbon disulfide	ND	710	ug/kg	
56-23-5	Carbon tetrachloride	ND	290	ug/kg	
108-90-7	Chlorobenzene	ND	290	ug/kg	
75-00-3	Chloroethane	ND	710	ug/kg	
67-66-3	Chloroform	ND	290	ug/kg	
74-87-3	Chloromethane	ND	710	ug/kg	
124-48-1	Dibromochloromethane	ND	290	ug/kg	
75-34-3	1,1-Dichloroethane	ND	290	ug/kg	
107-06-2	1,2-Dichloroethane	ND	290	ug/kg	
75-35-4	1,1-Dichloroethene	ND	290	ug/kg	
156-59-2	cis-1,2-Dichloroethene	712	290	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	290	ug/kg	
78-87-5	1,2-Dichloropropane	ND	290	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	290	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	290	ug/kg	
100-41-4	Ethylbenzene	ND	290	ug/kg	
591-78-6	2-Hexanone	ND	1400	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	710	ug/kg	
75-09-2	Methylene chloride	ND	290	ug/kg	
100-42-5	Styrene	ND	710	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	290	ug/kg	
127-18-4	Tetrachloroethene	2780	290	ug/kg	
108-88-3	Toluene	ND	710	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	290	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	290	ug/kg	
79-01-6	Trichloroethene	892	290	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-106-0204		
Lab Sample ID:	MC44516-26	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	77.3
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	290	ug/kg	
1330-20-7	Xylene (total)	ND	290	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-1416	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-27	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	85.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95263.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.37 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	59	ug/kg	
75-27-4	Bromodichloromethane	ND	230	ug/kg	
75-25-2	Bromoform	ND	230	ug/kg	
74-83-9	Bromomethane	ND	230	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
75-15-0	Carbon disulfide	ND	590	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	ug/kg	
108-90-7	Chlorobenzene	ND	230	ug/kg	
75-00-3	Chloroethane	ND	590	ug/kg	
67-66-3	Chloroform	ND	230	ug/kg	
74-87-3	Chloromethane	ND	590	ug/kg	
124-48-1	Dibromochloromethane	ND	230	ug/kg	
75-34-3	1,1-Dichloroethane	ND	230	ug/kg	
107-06-2	1,2-Dichloroethane	ND	230	ug/kg	
75-35-4	1,1-Dichloroethene	ND	230	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	230	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	230	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	230	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	590	ug/kg	
75-09-2	Methylene chloride	ND	230	ug/kg	
100-42-5	Styrene	ND	590	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ug/kg	
127-18-4	Tetrachloroethene	ND	230	ug/kg	
108-88-3	Toluene	ND	590	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	ug/kg	
79-01-6	Trichloroethene	ND	230	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-1416		
Lab Sample ID:	MC44516-27	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	85.5
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	230	ug/kg	
1330-20-7	Xylene (total)	ND	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	96%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-0002		
Lab Sample ID:	MC44516-28	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	74.7
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76626.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.40 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	45.0	12	ug/kg	
71-43-2	Benzene	ND	0.62	ug/kg	
75-27-4	Bromodichloromethane	ND	2.5	ug/kg	
75-25-2	Bromoform	ND	2.5	ug/kg	
74-83-9	Bromomethane	ND	2.5	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	25	ug/kg	
75-15-0	Carbon disulfide	ND	6.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.5	ug/kg	
108-90-7	Chlorobenzene	ND	2.5	ug/kg	
75-00-3	Chloroethane	ND	6.2	ug/kg	
67-66-3	Chloroform	ND	2.5	ug/kg	
74-87-3	Chloromethane	ND	6.2	ug/kg	
124-48-1	Dibromochloromethane	ND	2.5	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.5	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.5	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.5	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.5	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.5	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	ug/kg	
100-41-4	Ethylbenzene	ND	2.5	ug/kg	
591-78-6	2-Hexanone ^c	ND	12	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.2	ug/kg	
75-09-2	Methylene chloride	ND	2.5	ug/kg	
100-42-5	Styrene	ND	6.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	ug/kg	
127-18-4	Tetrachloroethene	12.0	2.5	ug/kg	
108-88-3	Toluene	ND	6.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.5	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.5	ug/kg	
79-01-6	Trichloroethene	3.4	2.5	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-0002	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-28	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	74.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.5	ug/kg	
1330-20-7	Xylene (total)	ND	2.5	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	115%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	104%		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Result biased low.

(c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-104-0002		
Lab Sample ID:	MC44516-28A	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C SW846 1311	Percent Solids:	74.7
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H78916.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.10	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	1.0	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.20	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.20	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.20	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.20	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.20	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.20	mg/l	
127-18-4	Tetrachloroethene	ND	D039	0.70	0.20	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.20	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		74-135%
2037-26-5	Toluene-D8	94%		83-116%
460-00-4	4-Bromofluorobenzene	104%		76-124%

ND = Not detected

MCL = Maximum Contamination Level (40 CFR 261 6/96)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-1214		
Lab Sample ID:	MC44516-29	Date Sampled:	02/18/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	85.0
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76627.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	6.00 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	9.8	ug/kg	
71-43-2	Benzene	0.67	0.49	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	20	ug/kg	
75-15-0	Carbon disulfide	ND	4.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	4.9	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	4.9	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone ^b	ND	9.8	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.9	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	4.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	ND	4.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-108-1214	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-29	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
1868-53-7	Dibromofluoromethane	107%		65-141%	
2037-26-5	Toluene-D8	90%		65-129%	
460-00-4	4-Bromofluorobenzene	151% ^c		63-137%	

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-104	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-30	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100014.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane ^a	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone ^a	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	1.3	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-104	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-30	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

(a) Continuing Calibration outside of acceptance criteria. Result biased high.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-108	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-31	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100015.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane ^a	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone ^a	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-108	Date Sampled:	02/18/16
Lab Sample ID:	MC44516-31	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%
2037-26-5	Toluene-D8	102%		80-116%
460-00-4	4-Bromofluorobenzene	99%		77-124%

(a) Continuing Calibration outside of acceptance criteria. Result biased high.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-111-0608	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-32	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95264.D	1	02/29/16	TB	n/a	n/a	MSK2930
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.38 g	10.0 ml	20.0 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	5300	ug/kg	
71-43-2	Benzene	ND	270	ug/kg	
75-27-4	Bromodichloromethane	ND	1100	ug/kg	
75-25-2	Bromoform	ND	1100	ug/kg	
74-83-9	Bromomethane	ND	1100	ug/kg	
78-93-3	2-Butanone (MEK)	ND	5300	ug/kg	
75-15-0	Carbon disulfide	ND	2700	ug/kg	
56-23-5	Carbon tetrachloride	ND	1100	ug/kg	
108-90-7	Chlorobenzene	ND	1100	ug/kg	
75-00-3	Chloroethane	ND	2700	ug/kg	
67-66-3	Chloroform	ND	1100	ug/kg	
74-87-3	Chloromethane	ND	2700	ug/kg	
124-48-1	Dibromochloromethane	ND	1100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1100	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1100	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1100	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1100	ug/kg	
78-87-5	1,2-Dichloropropane	1470	1100	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1100	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1100	ug/kg	
100-41-4	Ethylbenzene	ND	1100	ug/kg	
591-78-6	2-Hexanone	ND	5300	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	2700	ug/kg	
75-09-2	Methylene chloride	ND	1100	ug/kg	
100-42-5	Styrene	ND	2700	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1100	ug/kg	
127-18-4	Tetrachloroethene	121000	1100	ug/kg	
108-88-3	Toluene	ND	2700	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1100	ug/kg	
79-01-6	Trichloroethene	ND	1100	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-111-0608	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-32	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1100	ug/kg	
1330-20-7	Xylene (total)	ND	1100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TT-111-0002			
Lab Sample ID: MC44516-33		Date Sampled: 02/19/16	
Matrix: SO - Soil		Date Received: 02/24/16	
Method: SW846 8260C		Percent Solids: 79.2	
Project: River Forest, 7613 Lake Street, River Forest, IL			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76628.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.74 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	39.6	11	ug/kg	
71-43-2	Benzene	ND	0.55	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	ug/kg	
75-25-2	Bromoform	ND	2.2	ug/kg	
74-83-9	Bromomethane	ND	2.2	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	22	ug/kg	
75-15-0	Carbon disulfide	ND	5.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.5	ug/kg	
67-66-3	Chloroform	ND	2.2	ug/kg	
74-87-3	Chloromethane	ND	5.5	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	ug/kg	
591-78-6	2-Hexanone ^c	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.5	ug/kg	
75-09-2	Methylene chloride	ND	2.2	ug/kg	
100-42-5	Styrene	ND	5.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ug/kg	
127-18-4	Tetrachloroethene	10.3	2.2	ug/kg	
108-88-3	Toluene	ND	5.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ug/kg	
79-01-6	Trichloroethene	ND	2.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-111-0002	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-33	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	79.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	107%		63-137%

- (a) Preliminary results.
(b) Continuing Calibration outside of acceptance criteria. Result biased low.
(c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-0002		
Lab Sample ID:	MC44516-34	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	79.4
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76629.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.81 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	55.7	11	ug/kg	
71-43-2	Benzene	ND	0.54	ug/kg	
75-27-4	Bromodichloromethane	ND	2.2	ug/kg	
75-25-2	Bromoform	ND	2.2	ug/kg	
74-83-9	Bromomethane	ND	2.2	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	22	ug/kg	
75-15-0	Carbon disulfide	ND	5.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.4	ug/kg	
67-66-3	Chloroform	ND	2.2	ug/kg	
74-87-3	Chloromethane	ND	5.4	ug/kg	
124-48-1	Dibromochloromethane	ND	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	2.2	ug/kg	
591-78-6	2-Hexanone ^c	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.4	ug/kg	
75-09-2	Methylene chloride	ND	2.2	ug/kg	
100-42-5	Styrene	ND	5.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.2	ug/kg	
127-18-4	Tetrachloroethene	3.9	2.2	ug/kg	
108-88-3	Toluene	ND	5.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.2	ug/kg	
79-01-6	Trichloroethene	ND	2.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-0002		
Lab Sample ID:	MC44516-34	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	79.4
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	2.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	111%		63-137%

- (a) Preliminary results.
(b) Continuing Calibration outside of acceptance criteria. Result biased low.
(c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-111-1416		
Lab Sample ID:	MC44516-35	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	89.5
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76630.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	6.33 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	8.8	ug/kg	
71-43-2	Benzene	ND	0.44	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	ug/kg	
75-25-2	Bromoform	ND	1.8	ug/kg	
74-83-9	Bromomethane	ND	1.8	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	18	ug/kg	
75-15-0	Carbon disulfide	ND	4.4	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	1.8	ug/kg	
75-00-3	Chloroethane	ND	4.4	ug/kg	
67-66-3	Chloroform	ND	1.8	ug/kg	
74-87-3	Chloromethane	ND	4.4	ug/kg	
124-48-1	Dibromochloromethane	ND	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.8	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.8	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.8	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.8	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	ug/kg	
100-41-4	Ethylbenzene	ND	1.8	ug/kg	
591-78-6	2-Hexanone ^b	ND	8.8	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.4	ug/kg	
75-09-2	Methylene chloride	ND	1.8	ug/kg	
100-42-5	Styrene	ND	4.4	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	ug/kg	
127-18-4	Tetrachloroethene	ND	1.8	ug/kg	
108-88-3	Toluene	ND	4.4	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.8	ug/kg	
79-01-6	Trichloroethene	ND	1.8	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-111-1416		
Lab Sample ID:	MC44516-35	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	89.5
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.8	ug/kg	
1330-20-7	Xylene (total)	ND	1.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	86%		65-129%
460-00-4	4-Bromofluorobenzene	170% ^c		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(c) Outside control limits. Associated target analytes are non-detect.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-112-0608		
Lab Sample ID:	MC44516-36	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	94.3
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95298.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.12 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	53	ug/kg	
75-27-4	Bromodichloromethane	ND	210	ug/kg	
75-25-2	Bromoform	ND	210	ug/kg	
74-83-9	Bromomethane	ND	210	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	530	ug/kg	
56-23-5	Carbon tetrachloride	ND	210	ug/kg	
108-90-7	Chlorobenzene	ND	210	ug/kg	
75-00-3	Chloroethane	ND	530	ug/kg	
67-66-3	Chloroform	ND	210	ug/kg	
74-87-3	Chloromethane	ND	530	ug/kg	
124-48-1	Dibromochloromethane	ND	210	ug/kg	
75-34-3	1,1-Dichloroethane	ND	210	ug/kg	
107-06-2	1,2-Dichloroethane	ND	210	ug/kg	
75-35-4	1,1-Dichloroethene	ND	210	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	210	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	210	ug/kg	
78-87-5	1,2-Dichloropropane	ND	210	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	210	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	210	ug/kg	
100-41-4	Ethylbenzene	ND	210	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	530	ug/kg	
75-09-2	Methylene chloride	ND	210	ug/kg	
100-42-5	Styrene	ND	530	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	210	ug/kg	
127-18-4	Tetrachloroethene	6000	210	ug/kg	
108-88-3	Toluene	ND	530	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	210	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	210	ug/kg	
79-01-6	Trichloroethene	ND	210	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-112-0608	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-36	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	94.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	210	ug/kg	
1330-20-7	Xylene (total)	ND	210	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	93%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-0608		
Lab Sample ID:	MC44516-37	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	93.5
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76631.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	5.58 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	9.6	ug/kg	
71-43-2	Benzene	2.9	0.48	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	ug/kg	
75-25-2	Bromoform	ND	1.9	ug/kg	
74-83-9	Bromomethane	ND	1.9	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	19	ug/kg	
75-15-0	Carbon disulfide	ND	4.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	ug/kg	
75-00-3	Chloroethane	ND	4.8	ug/kg	
67-66-3	Chloroform	ND	1.9	ug/kg	
74-87-3	Chloromethane	ND	4.8	ug/kg	
124-48-1	Dibromochloromethane	ND	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	ug/kg	
591-78-6	2-Hexanone ^b	ND	9.6	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.8	ug/kg	
75-09-2	Methylene chloride	ND	1.9	ug/kg	
100-42-5	Styrene	ND	4.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	ug/kg	
127-18-4	Tetrachloroethene	75.1	1.9	ug/kg	
108-88-3	Toluene	ND	4.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	ug/kg	
79-01-6	Trichloroethene	2.1	1.9	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-0608	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-37	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	93.5
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.9	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	116%		65-141%
2037-26-5	Toluene-D8	93%		65-129%
460-00-4	4-Bromofluorobenzene	130%		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-1618		
Lab Sample ID:	MC44516-38	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	85.6
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76632.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	3.63 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	ND	16	ug/kg	
71-43-2	Benzene	3.0	0.80	ug/kg	
75-27-4	Bromodichloromethane	ND	3.2	ug/kg	
75-25-2	Bromoform	ND	3.2	ug/kg	
74-83-9	Bromomethane	ND	3.2	ug/kg	
78-93-3	2-Butanone (MEK) ^b	ND	32	ug/kg	
75-15-0	Carbon disulfide	ND	8.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.2	ug/kg	
108-90-7	Chlorobenzene	ND	3.2	ug/kg	
75-00-3	Chloroethane	ND	8.0	ug/kg	
67-66-3	Chloroform	ND	3.2	ug/kg	
74-87-3	Chloromethane	ND	8.0	ug/kg	
124-48-1	Dibromochloromethane	ND	3.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	3.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	3.2	ug/kg	
75-35-4	1,1-Dichloroethene	ND	3.2	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	3.2	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	3.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.2	ug/kg	
100-41-4	Ethylbenzene	ND	3.2	ug/kg	
591-78-6	2-Hexanone ^b	ND	16	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	8.0	ug/kg	
75-09-2	Methylene chloride	ND	3.2	ug/kg	
100-42-5	Styrene	ND	8.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.2	ug/kg	
127-18-4	Tetrachloroethene	30.5	3.2	ug/kg	
108-88-3	Toluene	ND	8.0	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.2	ug/kg	
79-01-6	Trichloroethene	ND	3.2	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-110-1618	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-38	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	85.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	3.2	ug/kg	
1330-20-7	Xylene (total)	ND	3.2	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	77%		65-129%
460-00-4	4-Bromofluorobenzene	154% ^c		63-137%

(a) Preliminary results.

(b) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(c) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-112-0002		
Lab Sample ID:	MC44516-39	Date Sampled:	02/19/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	76.7
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	M76633.D	1	03/02/16	KP	n/a	n/a	MSM2736
Run #2							

	Initial Weight	Final Volume
Run #1	4.94 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone ^b	161	13	ug/kg	
71-43-2	Benzene	0.72	0.66	ug/kg	
75-27-4	Bromodichloromethane	ND	2.6	ug/kg	
75-25-2	Bromoform	ND	2.6	ug/kg	
74-83-9	Bromomethane	ND	2.6	ug/kg	
78-93-3	2-Butanone (MEK) ^c	ND	26	ug/kg	
75-15-0	Carbon disulfide	ND	6.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.6	ug/kg	
108-90-7	Chlorobenzene	ND	2.6	ug/kg	
75-00-3	Chloroethane	ND	6.6	ug/kg	
67-66-3	Chloroform	ND	2.6	ug/kg	
74-87-3	Chloromethane	ND	6.6	ug/kg	
124-48-1	Dibromochloromethane	ND	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.6	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.6	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.6	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.6	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.6	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.6	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.6	ug/kg	
100-41-4	Ethylbenzene	ND	2.6	ug/kg	
591-78-6	2-Hexanone ^c	ND	13	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	6.6	ug/kg	
75-09-2	Methylene chloride	ND	2.6	ug/kg	
100-42-5	Styrene	ND	6.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.6	ug/kg	
127-18-4	Tetrachloroethene	134	2.6	ug/kg	
108-88-3	Toluene	ND	6.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.6	ug/kg	
79-01-6	Trichloroethene	ND	2.6	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-112-0002	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-39	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.6	ug/kg	
1330-20-7	Xylene (total)	ND	2.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%		65-141%
2037-26-5	Toluene-D8	92%		65-129%
460-00-4	4-Bromofluorobenzene	155% ^d		63-137%

- (a) Preliminary results.
- (b) Continuing Calibration outside of acceptance criteria. Result biased low.
- (c) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.
- (d) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-111	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-40	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	N100016.D	2	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	20	ug/l	
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
74-83-9	Bromomethane	ND	4.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	20	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane ^b	ND	4.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
74-87-3	Chloromethane	ND	4.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	4.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone ^b	ND	20	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	10	ug/l	
75-09-2	Methylene chloride	ND	4.0	ug/l	
100-42-5	Styrene	ND	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
79-01-6	Trichloroethene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-111	Date Sampled:	02/19/16
Lab Sample ID:	MC44516-40	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

(a) Dilution required due to high sediment level. The pH of the sample aliquot for VOA analysis was > 2 at time of analysis.

(b) Continuing Calibration outside of acceptance criteria. Result biased high.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Technical Report for

Tetra Tech EM, Inc.

River Forest, 7613 Lake Street, River Forest, IL

10353568

SGS Accutest Job Number: MC44517

Sampling Dates: 02/19/16 - 02/22/16

Report to:

Tetra Tech, Inc.
1 S Wachter Dr. #300
Chicago, IL 60606
tom.hahne@tetrattech.com

ATTN: Tom Hahne

Total number of pages in report: **150**



Test results contained within this data package meet the requirements
of the National Environmental Laboratory Accreditation Program
and/or state specific certification programs as applicable.


H. (Brad) Madadian
Lab Director

Client Service contact: Jeremy Vienneau 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579)
NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220)
DoD ELAP (L-A-B L2235)

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Test results relate only to samples analyzed.

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Sample Summary

Tetra Tech EM, Inc.

Job No: MC44517

River Forest, 7613 Lake Street, River Forest, IL
Project No: 10353568

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC44517-1	02/19/16	13:59 CR	02/24/16	AQ	Ground Water	MW-1000
MC44517-2	02/19/16	13:25 CR	02/24/16	AQ	Ground Water	MW-1300
MC44517-3	02/19/16	14:05 CR	02/24/16	AQ	Ground Water	MW-1800
MC44517-4	02/22/16	13:21 CR	02/24/16	SO	Soil	TT-113-0002
MC44517-5	02/22/16	13:31 CR	02/24/16	SO	Soil	TT-113-0406
MC44517-6	02/22/16	14:05 CR	02/24/16	SO	Soil	TT-113-1012
MC44517-7	02/22/16	15:35 CR	02/24/16	SO	Soil	TT-114-0002
MC44517-8	02/22/16	14:40 CR	02/24/16	SO	Soil	TT-114-0406
MC44517-9	02/22/16	15:02 CR	02/24/16	SO	Soil	TT-114-1012
MC44517-10	02/22/16	19:10 CR	02/24/16	SO	Soil	TT-115A-1012
MC44517-11	02/22/16	17:45 CR	02/24/16	SO	Soil	TT-116-1012
MC44517-11D	02/22/16	17:45 CR	02/24/16	SO	Soil Dup/MSD	TT-116-1012
MC44517-11S	02/22/16	17:45 CR	02/24/16	SO	Soil Matrix Spike	TT-116-1012

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



Sample Summary
(continued)

Tetra Tech EM, Inc.

Job No: MC44517

River Forest, 7613 Lake Street, River Forest, IL
Project No: 10353568

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC44517-12	02/22/16	16:40 CR	02/24/16	SO	Soil	TT-115-0608
MC44517-13	02/22/16	16:38 CR	02/24/16	SO	Soil	TT-115-0204
MC44517-14	02/22/16	18:20 CR	02/24/16	SO	Soil	TT-117-1012
MC44517-15	02/22/16	17:14 CR	02/24/16	SO	Soil	TT-116-0002
MC44517-16	02/22/16	17:30 CR	02/24/16	SO	Soil	TT-116-0608
MC44517-17	02/22/16	18:45 CR	02/24/16	SO	Soil	TT-115A-0810
MC44517-17A	02/22/16	18:45 CR	02/24/16	SO	Soil	TT-115A-0810
MC44517-18	02/22/16	17:57 CR	02/24/16	SO	Soil	TT-117-0002
MC44517-19	02/22/16	18:10 CR	02/24/16	SO	Soil	TT-117-0608

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

SAMPLE DELIVERY GROUP CASE NARRATIVE

2

Client: Tetra Tech EM, Inc.

Job No MC44517

Site: River Forest, 7613 Lake Street, River Forest, IL

Report Date 3/3/2016 2:34:54 PM

19 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 02/19/2016 and 02/22/2016 and were received at SGS Accutest New England on 02/24/2016 properly preserved, at 1.4 Deg. C and intact. These Samples received a job number of MC44517. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260C

Matrix: AQ

Batch ID: MSN3656

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC44516-11MS, MC44516-11MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- MC44516-11MS/MSD Recovery(s) for trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, Vinyl chloride are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Continuing calibration check standard MSN3656-CC3649 for vinyl chloride, chloroethane, acetone, 2-butanone, 2-hexanone exceed 20% difference (biased high). Associated samples are non-detect for these compounds.
- Initial calibration verification standard MSN3649-ICV3649 for acetone exceeds 30% Difference (biased high).

Matrix: LEACHATE

Batch ID: MSH2628

- Sample(s) MC44516-18ALS were used as the QC samples indicated.
- All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Matrix: SO

Batch ID: MSK2931

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC44516-36MS, MC44516-36MSD were used as the QC samples indicated.
- MC44516-36MS Recovery(s) for 1,1-Dichloroethene are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.

Matrix: SO

Batch ID: MSV1665

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC44517-11MS, MC44517-11MSD were used as the QC samples indicated.
- MC44517-11MS/MSD Recovery(s) and RPD(s) for MSD for the majority of the compounds are outside control limits. Outside control limits due to possible matrix interference. Refer to Blank Spike.
- MC44517-6 for 4-Bromofluorobenzene: Outside control limits. Sample results confirmed by reanalysis.
- MC44517-9, 14 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MC44517-11 for Carbon disulfide, Dibromochloromethane, 2-Butanone (MEK), Tetrachloroethene: Continuing Calibration check standard MSV1665-CC1661 exceed 20% difference (biased low). Reporting Limit response verified by low-level standard.
- MC44517-6, 9, 11, 13, 14 for Bromoform: Continuing Calibration check standard MSV1665-CC1661 exceed 20% difference (biased low). Reporting Limit response verified by low-level standard.
- MC44517-11 has internal standard recovery outside control limits. Target analytes not associated with this internal standard.
- MC44517-6, 9, 14 have internal standard recovery(s) outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MC44517-11 has internal standard recovery outside control limits due to possible matrix interference. Confirmed by MS/MSD.

Thursday, March 03, 2016

Page 1 of 2

Volatiles by GCMS By Method SW846 8260C

Matrix: SO

Batch ID: MSV1666

- All samples were analyzed within the recommended method holding time.
- Sample(s) MC44517-13MS, MC44517-13MSD were used as the QC samples indicated.
- Sample(s) MC44517-13, MC44517-14, MC44517-6, MC44517-9 have compound(s) reported with a “B” qualifier, indicating analyte is found in the associated method blank.
- MC44517-13MS/MSD Recovery(s) for Tetrachloroethene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- MC44517-9, 14 for 4-Bromofluorobenzene: Outside control limits due to possible matrix interference. Confirmed by reanalysis.
- MC44517-6, 9, 13, 14 for Carbon disulfide, Dibromochloromethane: Continuing Calibration check standard MSV1666-CC1661 exceed 20% difference (biased low). Reporting Limit response verified by low-level standard.
- MC44517-14 has internal standard recovery outside control limits. Target analytes not associated with this internal standard.
- MC44517-6, 9, 14 have internal standards recovery(s) outside control limits due to possible matrix interference. Confirmed by reanalysis.

Wet Chemistry By Method SM 2540G-97 MOD

Matrix: SO

Batch ID: GN53159

- Sample(s) MC44517-19DUP were used as the QC samples for Solids, Percent.

Matrix: SO

Batch ID: GN53161

- Sample(s) MC44517-11DUP were used as the QC samples for Solids, Percent.

Matrix: SO

Batch ID: GN53163

- Sample(s) MC44517-10DUP were used as the QC samples for Solids, Percent.

Matrix: SO

Batch ID: GN53171

- Sample(s) MC44532-1DUP were used as the QC samples for Solids, Percent.

SGS Accutest New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Laboratory Director for SGS Accutest New England or assignee as verified by the signature on the cover page has authorized the release of this report (MC44517).

Summary of Hits

Page 1 of 3

Job Number: MC44517
Account: Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL
Collected: 02/19/16 thru 02/22/16



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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MC44517-1 MW-1000

cis-1,2-Dichloroethene	173	1.0		ug/l	SW846 8260C
trans-1,2-Dichloroethene	4.4	1.0		ug/l	SW846 8260C
Tetrachloroethene	125	1.0		ug/l	SW846 8260C
Trichloroethene	18.0	1.0		ug/l	SW846 8260C

MC44517-2 MW-1300

No hits reported in this sample.

MC44517-3 MW-1800

Tetrachloroethene	3.7	1.0		ug/l	SW846 8260C
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MC44517-4 TT-113-0002

Tetrachloroethene	905	260		ug/kg	SW846 8260C
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MC44517-5 TT-113-0406

Tetrachloroethene	1700	200		ug/kg	SW846 8260C
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MC44517-6 TT-113-1012

Acetone	13.0 B	11		ug/kg	SW846 8260C
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MC44517-7 TT-114-0002

Tetrachloroethene	3660	270		ug/kg	SW846 8260C
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MC44517-8 TT-114-0406

Tetrachloroethene	2830	240		ug/kg	SW846 8260C
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MC44517-9 TT-114-1012

Acetone	28.5 B	9.3		ug/kg	SW846 8260C
Tetrachloroethene	15.8	1.9		ug/kg	SW846 8260C

MC44517-10 TT-115A-1012

cis-1,2-Dichloroethene	250	230		ug/kg	SW846 8260C
Tetrachloroethene	2630	230		ug/kg	SW846 8260C

Summary of Hits

Job Number: MC44517
Account: Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL
Collected: 02/19/16 thru 02/22/16



Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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MC44517-11 TT-116-1012

No hits reported in this sample.

MC44517-12 TT-115-0608

cis-1,2-Dichloroethene	1560	230		ug/kg	SW846 8260C
Tetrachloroethene	20500	230		ug/kg	SW846 8260C
Trichloroethene	1280	230		ug/kg	SW846 8260C

MC44517-13 TT-115-0204

Acetone	11.3 B	10		ug/kg	SW846 8260C
Benzene	2.9	0.52		ug/kg	SW846 8260C
Tetrachloroethene	60.5	2.1		ug/kg	SW846 8260C

MC44517-14 TT-117-1012

Acetone	11.8 B	8.9		ug/kg	SW846 8260C
Tetrachloroethene	5.4	1.8		ug/kg	SW846 8260C

MC44517-15 TT-116-0002

Tetrachloroethene	3500	260		ug/kg	SW846 8260C
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MC44517-16 TT-116-0608

Tetrachloroethene	16400	220		ug/kg	SW846 8260C
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MC44517-17 TT-115A-0810

cis-1,2-Dichloroethene	105000	2000		ug/kg	SW846 8260C
Tetrachloroethene	224000	2000		ug/kg	SW846 8260C
Trichloroethene	28900	2000		ug/kg	SW846 8260C

MC44517-17A TT-115A-0810

Tetrachloroethene	0.473	0.20		mg/l	SW846 8260C
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MC44517-18 TT-117-0002

Tetrachloroethene	15300	280		ug/kg	SW846 8260C
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Summary of Hits

Job Number: MC44517
Account: Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL
Collected: 02/19/16 thru 02/22/16



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
MC44517-19	TT-117-0608					
Tetrachloroethene		31700	220		ug/kg	SW846 8260C
Trichloroethene		548	220		ug/kg	SW846 8260C



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-1000	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-1	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100017.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	173	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.4	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	125	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	18.0	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1000	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-1	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		79-127%
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	97%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1300	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-2	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100018.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1300	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-2	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%
2037-26-5	Toluene-D8	100%		80-116%
460-00-4	4-Bromofluorobenzene	98%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1800	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-3	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N100019.D	1	02/26/16	CB	n/a	n/a	MSN3656
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	3.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1800	Date Sampled:	02/19/16
Lab Sample ID:	MC44517-3	Date Received:	02/24/16
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-127%
2037-26-5	Toluene-D8	101%		80-116%
460-00-4	4-Bromofluorobenzene	98%		77-124%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-0002		
Lab Sample ID:	MC44517-4	Date Sampled:	02/22/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	79.3
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95299.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.41 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1300	ug/kg	
71-43-2	Benzene	ND	65	ug/kg	
75-27-4	Bromodichloromethane	ND	260	ug/kg	
75-25-2	Bromoform	ND	260	ug/kg	
74-83-9	Bromomethane	ND	260	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1300	ug/kg	
75-15-0	Carbon disulfide	ND	650	ug/kg	
56-23-5	Carbon tetrachloride	ND	260	ug/kg	
108-90-7	Chlorobenzene	ND	260	ug/kg	
75-00-3	Chloroethane	ND	650	ug/kg	
67-66-3	Chloroform	ND	260	ug/kg	
74-87-3	Chloromethane	ND	650	ug/kg	
124-48-1	Dibromochloromethane	ND	260	ug/kg	
75-34-3	1,1-Dichloroethane	ND	260	ug/kg	
107-06-2	1,2-Dichloroethane	ND	260	ug/kg	
75-35-4	1,1-Dichloroethene	ND	260	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	260	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	260	ug/kg	
78-87-5	1,2-Dichloropropane	ND	260	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	260	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	260	ug/kg	
100-41-4	Ethylbenzene	ND	260	ug/kg	
591-78-6	2-Hexanone	ND	1300	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	650	ug/kg	
75-09-2	Methylene chloride	ND	260	ug/kg	
100-42-5	Styrene	ND	650	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	260	ug/kg	
127-18-4	Tetrachloroethene	905	260	ug/kg	
108-88-3	Toluene	ND	650	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	260	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	260	ug/kg	
79-01-6	Trichloroethene	ND	260	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-4	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	79.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	260	ug/kg	
1330-20-7	Xylene (total)	ND	260	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-0406	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-5	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95300.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.63 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1000	ug/kg	
71-43-2	Benzene	ND	51	ug/kg	
75-27-4	Bromodichloromethane	ND	200	ug/kg	
75-25-2	Bromoform	ND	200	ug/kg	
74-83-9	Bromomethane	ND	200	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1000	ug/kg	
75-15-0	Carbon disulfide	ND	510	ug/kg	
56-23-5	Carbon tetrachloride	ND	200	ug/kg	
108-90-7	Chlorobenzene	ND	200	ug/kg	
75-00-3	Chloroethane	ND	510	ug/kg	
67-66-3	Chloroform	ND	200	ug/kg	
74-87-3	Chloromethane	ND	510	ug/kg	
124-48-1	Dibromochloromethane	ND	200	ug/kg	
75-34-3	1,1-Dichloroethane	ND	200	ug/kg	
107-06-2	1,2-Dichloroethane	ND	200	ug/kg	
75-35-4	1,1-Dichloroethene	ND	200	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	200	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	200	ug/kg	
78-87-5	1,2-Dichloropropane	ND	200	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	200	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	200	ug/kg	
100-41-4	Ethylbenzene	ND	200	ug/kg	
591-78-6	2-Hexanone	ND	1000	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	510	ug/kg	
75-09-2	Methylene chloride	ND	200	ug/kg	
100-42-5	Styrene	ND	510	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	ug/kg	
127-18-4	Tetrachloroethene	1700	200	ug/kg	
108-88-3	Toluene	ND	510	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	200	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	200	ug/kg	
79-01-6	Trichloroethene	ND	200	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-0406	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-5	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	91.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	200	ug/kg	
1330-20-7	Xylene (total)	ND	200	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	93%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-6	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V45716.D	1	03/02/16	KD	n/a	n/a	MSV1666
Run #2	V45693.D	1	03/02/16	KD	n/a	n/a	MSV1665

	Initial Weight	Final Volume
Run #1	5.51 g	5.0 ml
Run #2	5.65 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	13.0	11	ug/kg	B
71-43-2	Benzene	ND	0.53	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform ^a	ND ^b	2.1	ug/kg	
74-83-9	Bromomethane	ND	2.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	11	ug/kg	
75-15-0	Carbon disulfide ^a	ND	5.3	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.3	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
74-87-3	Chloromethane	ND	5.3	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
591-78-6	2-Hexanone	ND	11	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.3	ug/kg	
75-09-2	Methylene chloride	ND	2.1	ug/kg	
100-42-5	Styrene	ND	5.3	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethene	ND	2.1	ug/kg	
108-88-3	Toluene	ND	5.3	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
79-01-6	Trichloroethene	ND	2.1	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-113-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-6	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	118%	116%	65-141%
2037-26-5	Toluene-D8	98%	88%	65-129%
460-00-4	4-Bromofluorobenzene	127%	138% ^c	63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(b) Result is from Run# 2

(c) Outside control limits. Sample results confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-7	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	80.0
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95301.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.15 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1300	ug/kg	
71-43-2	Benzene	ND	67	ug/kg	
75-27-4	Bromodichloromethane	ND	270	ug/kg	
75-25-2	Bromoform	ND	270	ug/kg	
74-83-9	Bromomethane	ND	270	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1300	ug/kg	
75-15-0	Carbon disulfide	ND	670	ug/kg	
56-23-5	Carbon tetrachloride	ND	270	ug/kg	
108-90-7	Chlorobenzene	ND	270	ug/kg	
75-00-3	Chloroethane	ND	670	ug/kg	
67-66-3	Chloroform	ND	270	ug/kg	
74-87-3	Chloromethane	ND	670	ug/kg	
124-48-1	Dibromochloromethane	ND	270	ug/kg	
75-34-3	1,1-Dichloroethane	ND	270	ug/kg	
107-06-2	1,2-Dichloroethane	ND	270	ug/kg	
75-35-4	1,1-Dichloroethene	ND	270	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	270	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	270	ug/kg	
78-87-5	1,2-Dichloropropane	ND	270	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	270	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	270	ug/kg	
100-41-4	Ethylbenzene	ND	270	ug/kg	
591-78-6	2-Hexanone	ND	1300	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	670	ug/kg	
75-09-2	Methylene chloride	ND	270	ug/kg	
100-42-5	Styrene	ND	670	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	270	ug/kg	
127-18-4	Tetrachloroethene	3660	270	ug/kg	
108-88-3	Toluene	ND	670	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	270	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	270	ug/kg	
79-01-6	Trichloroethene	ND	270	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-7	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	80.0
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	270	ug/kg	
1330-20-7	Xylene (total)	ND	270	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		65-141%
2037-26-5	Toluene-D8	96%		65-129%
460-00-4	4-Bromofluorobenzene	96%		63-137%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-0406	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-8	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	89.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95302.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.87 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	61	ug/kg	
75-27-4	Bromodichloromethane	ND	240	ug/kg	
75-25-2	Bromoform	ND	240	ug/kg	
74-83-9	Bromomethane	ND	240	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
75-15-0	Carbon disulfide	ND	610	ug/kg	
56-23-5	Carbon tetrachloride	ND	240	ug/kg	
108-90-7	Chlorobenzene	ND	240	ug/kg	
75-00-3	Chloroethane	ND	610	ug/kg	
67-66-3	Chloroform	ND	240	ug/kg	
74-87-3	Chloromethane	ND	610	ug/kg	
124-48-1	Dibromochloromethane	ND	240	ug/kg	
75-34-3	1,1-Dichloroethane	ND	240	ug/kg	
107-06-2	1,2-Dichloroethane	ND	240	ug/kg	
75-35-4	1,1-Dichloroethene	ND	240	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	240	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	240	ug/kg	
78-87-5	1,2-Dichloropropane	ND	240	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	240	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	240	ug/kg	
100-41-4	Ethylbenzene	ND	240	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	610	ug/kg	
75-09-2	Methylene chloride	ND	240	ug/kg	
100-42-5	Styrene	ND	610	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	240	ug/kg	
127-18-4	Tetrachloroethene	2830	240	ug/kg	
108-88-3	Toluene	ND	610	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	240	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	240	ug/kg	
79-01-6	Trichloroethene	ND	240	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-0406	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-8	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	89.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	240	ug/kg	
1330-20-7	Xylene (total)	ND	240	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-9	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	85.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V45717.D	1	03/02/16	KD	n/a	n/a	MSV1666
Run #2	V45694.D	1	03/02/16	KD	n/a	n/a	MSV1665

	Initial Weight	Final Volume
Run #1	6.30 g	5.0 ml
Run #2	6.67 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	28.5	9.3	ug/kg	B
71-43-2	Benzene	ND	0.47	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	ug/kg	
75-25-2	Bromoform ^a	ND ^b	1.8	ug/kg	
74-83-9	Bromomethane	ND	1.9	ug/kg	
78-93-3	2-Butanone (MEK)	ND	9.3	ug/kg	
75-15-0	Carbon disulfide ^a	ND	4.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	ug/kg	
75-00-3	Chloroethane	ND	4.7	ug/kg	
67-66-3	Chloroform	ND	1.9	ug/kg	
74-87-3	Chloromethane	ND	4.7	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	ug/kg	
591-78-6	2-Hexanone	ND	9.3	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.7	ug/kg	
75-09-2	Methylene chloride	ND	1.9	ug/kg	
100-42-5	Styrene	ND	4.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	ug/kg	
127-18-4	Tetrachloroethene	15.8	1.9	ug/kg	
108-88-3	Toluene	ND	4.7	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	ug/kg	
79-01-6	Trichloroethene	ND	1.9	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-114-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-9	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	85.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.9	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%	112%	65-141%
2037-26-5	Toluene-D8	89%	95%	65-129%
460-00-4	4-Bromofluorobenzene	152% ^c	138% ^c	63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(b) Result is from Run# 2

(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115A-1012		
Lab Sample ID:	MC44517-10	Date Sampled:	02/22/16
Matrix:	SO - Soil	Date Received:	02/24/16
Method:	SW846 8260C	Percent Solids:	87.1
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95303.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.31 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1200	ug/kg	
71-43-2	Benzene	ND	58	ug/kg	
75-27-4	Bromodichloromethane	ND	230	ug/kg	
75-25-2	Bromoform	ND	230	ug/kg	
74-83-9	Bromomethane	ND	230	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1200	ug/kg	
75-15-0	Carbon disulfide	ND	580	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	ug/kg	
108-90-7	Chlorobenzene	ND	230	ug/kg	
75-00-3	Chloroethane	ND	580	ug/kg	
67-66-3	Chloroform	ND	230	ug/kg	
74-87-3	Chloromethane	ND	580	ug/kg	
124-48-1	Dibromochloromethane	ND	230	ug/kg	
75-34-3	1,1-Dichloroethane	ND	230	ug/kg	
107-06-2	1,2-Dichloroethane	ND	230	ug/kg	
75-35-4	1,1-Dichloroethene	ND	230	ug/kg	
156-59-2	cis-1,2-Dichloroethene	250	230	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	230	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	230	ug/kg	
591-78-6	2-Hexanone	ND	1200	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	580	ug/kg	
75-09-2	Methylene chloride	ND	230	ug/kg	
100-42-5	Styrene	ND	580	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ug/kg	
127-18-4	Tetrachloroethene	2630	230	ug/kg	
108-88-3	Toluene	ND	580	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	ug/kg	
79-01-6	Trichloroethene	ND	230	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115A-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-10	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	87.1
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	230	ug/kg	
1330-20-7	Xylene (total)	ND	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-11	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V45695.D	1	03/02/16	KD	n/a	n/a	MSV1665
Run #2							

	Initial Weight	Final Volume
Run #1	6.00 g	5.0 ml
Run #2		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	9.6	ug/kg	
71-43-2	Benzene	ND	0.48	ug/kg	
75-27-4	Bromodichloromethane	ND	1.9	ug/kg	
75-25-2	Bromoform ^a	ND	1.9	ug/kg	
74-83-9	Bromomethane	ND	1.9	ug/kg	
78-93-3	2-Butanone (MEK) ^a	ND	9.6	ug/kg	
75-15-0	Carbon disulfide ^a	ND	4.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.9	ug/kg	
108-90-7	Chlorobenzene	ND	1.9	ug/kg	
75-00-3	Chloroethane	ND	4.8	ug/kg	
67-66-3	Chloroform	ND	1.9	ug/kg	
74-87-3	Chloromethane	ND	4.8	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.9	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	ug/kg	
591-78-6	2-Hexanone	ND	9.6	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.8	ug/kg	
75-09-2	Methylene chloride	ND	1.9	ug/kg	
100-42-5	Styrene	ND	4.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.9	ug/kg	
127-18-4	Tetrachloroethene ^a	ND	1.9	ug/kg	
108-88-3	Toluene	ND	4.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.9	ug/kg	
79-01-6	Trichloroethene	ND	1.9	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-11	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.9	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	92%		65-129%
460-00-4	4-Bromofluorobenzene	135%		63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

ND = Not detected
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-12	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95304.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.05 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	57	ug/kg	
75-27-4	Bromodichloromethane	ND	230	ug/kg	
75-25-2	Bromoform	ND	230	ug/kg	
74-83-9	Bromomethane	ND	230	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	570	ug/kg	
56-23-5	Carbon tetrachloride	ND	230	ug/kg	
108-90-7	Chlorobenzene	ND	230	ug/kg	
75-00-3	Chloroethane	ND	570	ug/kg	
67-66-3	Chloroform	ND	230	ug/kg	
74-87-3	Chloromethane	ND	570	ug/kg	
124-48-1	Dibromochloromethane	ND	230	ug/kg	
75-34-3	1,1-Dichloroethane	ND	230	ug/kg	
107-06-2	1,2-Dichloroethane	ND	230	ug/kg	
75-35-4	1,1-Dichloroethene	ND	230	ug/kg	
156-59-2	cis-1,2-Dichloroethene	1560	230	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	230	ug/kg	
78-87-5	1,2-Dichloropropane	ND	230	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	230	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	230	ug/kg	
100-41-4	Ethylbenzene	ND	230	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	570	ug/kg	
75-09-2	Methylene chloride	ND	230	ug/kg	
100-42-5	Styrene	ND	570	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	230	ug/kg	
127-18-4	Tetrachloroethene	20500	230	ug/kg	
108-88-3	Toluene	ND	570	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	230	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	230	ug/kg	
79-01-6	Trichloroethene	1280	230	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-12	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	90.8
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	230	ug/kg	
1330-20-7	Xylene (total)	ND	230	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		65-141%
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115-0204	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-13	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V45718.D	1	03/02/16	KD	n/a	n/a	MSV1666
Run #2	V45696.D	1	03/02/16	KD	n/a	n/a	MSV1665

	Initial Weight	Final Volume
Run #1	5.39 g	5.0 ml
Run #2	5.79 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	11.3	10	ug/kg	B
71-43-2	Benzene	2.9	0.52	ug/kg	
75-27-4	Bromodichloromethane	ND	2.1	ug/kg	
75-25-2	Bromoform ^a	ND ^b	1.9	ug/kg	
74-83-9	Bromomethane	ND	2.1	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
75-15-0	Carbon disulfide ^a	ND	5.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.1	ug/kg	
108-90-7	Chlorobenzene	ND	2.1	ug/kg	
75-00-3	Chloroethane	ND	5.2	ug/kg	
67-66-3	Chloroform	ND	2.1	ug/kg	
74-87-3	Chloromethane	ND	5.2	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	2.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.1	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.1	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.1	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.1	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.1	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.1	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.1	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.1	ug/kg	
100-41-4	Ethylbenzene	ND	2.1	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.2	ug/kg	
75-09-2	Methylene chloride	ND	2.1	ug/kg	
100-42-5	Styrene	ND	5.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/kg	
127-18-4	Tetrachloroethene	60.5	2.1	ug/kg	
108-88-3	Toluene	ND	5.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.1	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.1	ug/kg	
79-01-6	Trichloroethene	ND	2.1	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115-0204	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-13	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	89.3
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.1	ug/kg	
1330-20-7	Xylene (total)	ND	2.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	119%	111%	65-141%
2037-26-5	Toluene-D8	102%	97%	65-129%
460-00-4	4-Bromofluorobenzene	105%	105%	63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(b) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-14	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V45719.D	1	03/02/16	KD	n/a	n/a	MSV1666
Run #2	V45697.D	1	03/02/16	KD	n/a	n/a	MSV1665

	Initial Weight	Final Volume
Run #1	6.47 g	5.0 ml
Run #2	6.32 g	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	11.8	8.9	ug/kg	B
71-43-2	Benzene	ND	0.45	ug/kg	
75-27-4	Bromodichloromethane	ND	1.8	ug/kg	
75-25-2	Bromoform ^a	ND ^b	1.8	ug/kg	
74-83-9	Bromomethane	ND	1.8	ug/kg	
78-93-3	2-Butanone (MEK)	ND	8.9	ug/kg	
75-15-0	Carbon disulfide ^a	ND	4.5	ug/kg	
56-23-5	Carbon tetrachloride	ND	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	1.8	ug/kg	
75-00-3	Chloroethane	ND	4.5	ug/kg	
67-66-3	Chloroform	ND	1.8	ug/kg	
74-87-3	Chloromethane	ND	4.5	ug/kg	
124-48-1	Dibromochloromethane ^a	ND	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.8	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.8	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.8	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.8	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.8	ug/kg	
78-87-5	1,2-Dichloropropane	ND	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	1.8	ug/kg	
100-41-4	Ethylbenzene	ND	1.8	ug/kg	
591-78-6	2-Hexanone	ND	8.9	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.5	ug/kg	
75-09-2	Methylene chloride	ND	1.8	ug/kg	
100-42-5	Styrene	ND	4.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.8	ug/kg	
127-18-4	Tetrachloroethene	5.4	1.8	ug/kg	
108-88-3	Toluene	ND	4.5	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	1.8	ug/kg	
79-01-6	Trichloroethene	ND	1.8	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-1012	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-14	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	86.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	1.8	ug/kg	
1330-20-7	Xylene (total)	ND	1.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%	116%	65-141%
2037-26-5	Toluene-D8	90%	94%	65-129%
460-00-4	4-Bromofluorobenzene	153% ^c	142% ^c	63-137%

(a) Continuing Calibration outside of acceptance criteria. Reporting Limit response verified by low-level standard.

(b) Result is from Run# 2

(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-15	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95305.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.69 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1300	ug/kg	
71-43-2	Benzene	ND	65	ug/kg	
75-27-4	Bromodichloromethane	ND	260	ug/kg	
75-25-2	Bromoform	ND	260	ug/kg	
74-83-9	Bromomethane	ND	260	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1300	ug/kg	
75-15-0	Carbon disulfide	ND	650	ug/kg	
56-23-5	Carbon tetrachloride	ND	260	ug/kg	
108-90-7	Chlorobenzene	ND	260	ug/kg	
75-00-3	Chloroethane	ND	650	ug/kg	
67-66-3	Chloroform	ND	260	ug/kg	
74-87-3	Chloromethane	ND	650	ug/kg	
124-48-1	Dibromochloromethane	ND	260	ug/kg	
75-34-3	1,1-Dichloroethane	ND	260	ug/kg	
107-06-2	1,2-Dichloroethane	ND	260	ug/kg	
75-35-4	1,1-Dichloroethene	ND	260	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	260	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	260	ug/kg	
78-87-5	1,2-Dichloropropane	ND	260	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	260	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	260	ug/kg	
100-41-4	Ethylbenzene	ND	260	ug/kg	
591-78-6	2-Hexanone	ND	1300	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	650	ug/kg	
75-09-2	Methylene chloride	ND	260	ug/kg	
100-42-5	Styrene	ND	650	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	260	ug/kg	
127-18-4	Tetrachloroethene	3500	260	ug/kg	
108-88-3	Toluene	ND	650	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	260	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	260	ug/kg	
79-01-6	Trichloroethene	ND	260	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-15	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	76.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	260	ug/kg	
1330-20-7	Xylene (total)	ND	260	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	93%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-16	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	94.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95306.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.03 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	54	ug/kg	
75-27-4	Bromodichloromethane	ND	220	ug/kg	
75-25-2	Bromoform	ND	220	ug/kg	
74-83-9	Bromomethane	ND	220	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	540	ug/kg	
56-23-5	Carbon tetrachloride	ND	220	ug/kg	
108-90-7	Chlorobenzene	ND	220	ug/kg	
75-00-3	Chloroethane	ND	540	ug/kg	
67-66-3	Chloroform	ND	220	ug/kg	
74-87-3	Chloromethane	ND	540	ug/kg	
124-48-1	Dibromochloromethane	ND	220	ug/kg	
75-34-3	1,1-Dichloroethane	ND	220	ug/kg	
107-06-2	1,2-Dichloroethane	ND	220	ug/kg	
75-35-4	1,1-Dichloroethene	ND	220	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	220	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	220	ug/kg	
78-87-5	1,2-Dichloropropane	ND	220	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	220	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	220	ug/kg	
100-41-4	Ethylbenzene	ND	220	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	540	ug/kg	
75-09-2	Methylene chloride	ND	220	ug/kg	
100-42-5	Styrene	ND	540	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	220	ug/kg	
127-18-4	Tetrachloroethene	16400	220	ug/kg	
108-88-3	Toluene	ND	540	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	220	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	220	ug/kg	
79-01-6	Trichloroethene	ND	220	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-116-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-16	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	94.7
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	220	ug/kg	
1330-20-7	Xylene (total)	ND	220	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		65-141%
2037-26-5	Toluene-D8	97%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115A-0810	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-17	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95307.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.67 g	10.0 ml	10.0 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10000	ug/kg	
71-43-2	Benzene	ND	500	ug/kg	
75-27-4	Bromodichloromethane	ND	2000	ug/kg	
75-25-2	Bromoform	ND	2000	ug/kg	
74-83-9	Bromomethane	ND	2000	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10000	ug/kg	
75-15-0	Carbon disulfide	ND	5000	ug/kg	
56-23-5	Carbon tetrachloride	ND	2000	ug/kg	
108-90-7	Chlorobenzene	ND	2000	ug/kg	
75-00-3	Chloroethane	ND	5000	ug/kg	
67-66-3	Chloroform	ND	2000	ug/kg	
74-87-3	Chloromethane	ND	5000	ug/kg	
124-48-1	Dibromochloromethane	ND	2000	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2000	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2000	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2000	ug/kg	
156-59-2	cis-1,2-Dichloroethene	105000	2000	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2000	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2000	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2000	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2000	ug/kg	
100-41-4	Ethylbenzene	ND	2000	ug/kg	
591-78-6	2-Hexanone	ND	10000	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5000	ug/kg	
75-09-2	Methylene chloride	ND	2000	ug/kg	
100-42-5	Styrene	ND	5000	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2000	ug/kg	
127-18-4	Tetrachloroethene	224000	2000	ug/kg	
108-88-3	Toluene	ND	5000	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2000	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2000	ug/kg	
79-01-6	Trichloroethene	28900	2000	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115A-0810	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-17	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2000	ug/kg	
1330-20-7	Xylene (total)	ND	2000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%		65-141%
2037-26-5	Toluene-D8	98%		65-129%
460-00-4	4-Bromofluorobenzene	93%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-115A-0810	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-17A	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	92.2
Method:	SW846 8260C SW846 1311		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H78917.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

TCLP Leachate method SW846 1311

CAS No.	Compound	Result	HW#	MCL	RL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.10	mg/l	
78-93-3	2-Butanone (MEK)	ND	D035	200	1.0	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.20	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.20	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.20	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.20	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.20	mg/l	
75-35-4	1,1-Dichloroethene	ND	D029	0.70	0.20	mg/l	
127-18-4	Tetrachloroethene	0.473	D039	0.70	0.20	mg/l	
79-01-6	Trichloroethene	ND	D040	0.50	0.20	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		74-135%
2037-26-5	Toluene-D8	95%		83-116%
460-00-4	4-Bromofluorobenzene	107%		76-124%

ND = Not detected

MCL = Maximum Contamination Level (40 CFR 261.6/96)

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-18	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	76.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95308.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.21 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1400	ug/kg	
71-43-2	Benzene	ND	71	ug/kg	
75-27-4	Bromodichloromethane	ND	280	ug/kg	
75-25-2	Bromoform	ND	280	ug/kg	
74-83-9	Bromomethane	ND	280	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1400	ug/kg	
75-15-0	Carbon disulfide	ND	710	ug/kg	
56-23-5	Carbon tetrachloride	ND	280	ug/kg	
108-90-7	Chlorobenzene	ND	280	ug/kg	
75-00-3	Chloroethane	ND	710	ug/kg	
67-66-3	Chloroform	ND	280	ug/kg	
74-87-3	Chloromethane	ND	710	ug/kg	
124-48-1	Dibromochloromethane	ND	280	ug/kg	
75-34-3	1,1-Dichloroethane	ND	280	ug/kg	
107-06-2	1,2-Dichloroethane	ND	280	ug/kg	
75-35-4	1,1-Dichloroethene	ND	280	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	280	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	280	ug/kg	
78-87-5	1,2-Dichloropropane	ND	280	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	280	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	280	ug/kg	
100-41-4	Ethylbenzene	ND	280	ug/kg	
591-78-6	2-Hexanone	ND	1400	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	710	ug/kg	
75-09-2	Methylene chloride	ND	280	ug/kg	
100-42-5	Styrene	ND	710	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	280	ug/kg	
127-18-4	Tetrachloroethene	15300	280	ug/kg	
108-88-3	Toluene	ND	710	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	280	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	280	ug/kg	
79-01-6	Trichloroethene	ND	280	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-0002	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-18	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	76.4
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	280	ug/kg	
1330-20-7	Xylene (total)	ND	280	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	100%		65-129%
460-00-4	4-Bromofluorobenzene	95%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-19	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	93.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	K95309.D	1	03/01/16	TB	n/a	n/a	MSK2931
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.10 g	10.0 ml	100 ul
Run #2			

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	1100	ug/kg	
71-43-2	Benzene	ND	54	ug/kg	
75-27-4	Bromodichloromethane	ND	220	ug/kg	
75-25-2	Bromoform	ND	220	ug/kg	
74-83-9	Bromomethane	ND	220	ug/kg	
78-93-3	2-Butanone (MEK)	ND	1100	ug/kg	
75-15-0	Carbon disulfide	ND	540	ug/kg	
56-23-5	Carbon tetrachloride	ND	220	ug/kg	
108-90-7	Chlorobenzene	ND	220	ug/kg	
75-00-3	Chloroethane	ND	540	ug/kg	
67-66-3	Chloroform	ND	220	ug/kg	
74-87-3	Chloromethane	ND	540	ug/kg	
124-48-1	Dibromochloromethane	ND	220	ug/kg	
75-34-3	1,1-Dichloroethane	ND	220	ug/kg	
107-06-2	1,2-Dichloroethane	ND	220	ug/kg	
75-35-4	1,1-Dichloroethene	ND	220	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	220	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	220	ug/kg	
78-87-5	1,2-Dichloropropane	ND	220	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	220	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	220	ug/kg	
100-41-4	Ethylbenzene	ND	220	ug/kg	
591-78-6	2-Hexanone	ND	1100	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	540	ug/kg	
75-09-2	Methylene chloride	ND	220	ug/kg	
100-42-5	Styrene	ND	540	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	220	ug/kg	
127-18-4	Tetrachloroethene	31700	220	ug/kg	
108-88-3	Toluene	ND	540	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	220	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	220	ug/kg	
79-01-6	Trichloroethene	548	220	ug/kg	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TT-117-0608	Date Sampled:	02/22/16
Lab Sample ID:	MC44517-19	Date Received:	02/24/16
Matrix:	SO - Soil	Percent Solids:	93.6
Method:	SW846 8260C		
Project:	River Forest, 7613 Lake Street, River Forest, IL		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	220	ug/kg	
1330-20-7	Xylene (total)	ND	220	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		65-141%
2037-26-5	Toluene-D8	99%		65-129%
460-00-4	4-Bromofluorobenzene	94%		63-137%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Client / Reporting Information				Project Information				Requested Analysis (see TEST CODE sheet)												Matrix Codes	
Company Name: Petra Tech				Project Name: River Forest				VOCs Soil Moisture												DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
Street Address: 15. Wacker Dr				Street: Lab																	
City: Chicago State: IL Zip: 60606				City: River Forest																	
Project Contact: Tom Hahp E-mail: Tom.Hahp@petratel.com				Billing Information (If different from Report to)																	
Phone #: 708.444.1111 Fax #: 708.444.1111				Company Name:																	
Sampler(s) Name(s): CHPAAH Phone #: 708.444.1111				Project Manager: Tom Hahp				Attention: PO#												LAB USE ONLY	
Accutest Sample #	Field ID / Point of Collection	MECH/DOI Val #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	PHOS	HGBM	NONE	DI Water	MECH	EMERGENCY	Blank					
-1	MW-1000		2-19-16	1359	CHP	SO	3								X	X					
-2	MW-1300		2-19-16	1325			3								X						
-3	MW-1900		2-19-16	1405			3								X						
-4	TT-113-0002		2-22-16	1321			4								X	X					
-5	TT-113-0406			1331			4								X	X					
-6	TT-113-1012			1405			4								X	X					
-7	TT-114-0002			1535			4								X	X					
-8	TT-114-0406			1440			4								X	X					
-9	TT-114-1012			1504			4								X	X					
-10	TT-115A-1012			1910			4								X	X					
-11	TT-116-1012			1745			4								X	X					
-12	TT-115-0608			1640			4								X	X					
Data Deliverable Information ☐ Commercial "A" (Level 1) ☐ Commercial "B" (Level 2) ☐ FULLT1 (Level 3+4) ☐ CT RCP ☐ MA MCP ☐ NYASP Category A ☐ NYASP Category B ☐ State Forms ☐ EDD Format ☐ Other																					
Turnaround Time (Business days) ☐ Std. 10 Business Days ☐ Std. 5 Business Days (By Contract only) ☒ 5 Day RUSH ☐ 3 Day EMERGENCY ☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY Emergency & Rush TIA data available VIA Lablink																					
Approved By (Accutest PM): / Date: _____ Comments / Special Instructions INITIAL ASSESSMENT <u>W</u> LABEL VERIFICATION <u>W</u>																					
Sample Custody must be documented below each time samples change possession, including courier delivery.																					
Relinquished by Sampler: <u>1</u>		Date/Time: <u>2-23/1000</u>		Received By: <u>Tom Hahp</u>		Date/Time: <u>2/23/10:00</u>		Relinquished By: <u>FedEx</u>		Date/Time: <u>2-24-16</u>		Received By: <u>Tom Hahp</u>									
Relinquished by Sampler: <u>3</u>		Date/Time: <u></u>		Received By: <u>3</u>		Date/Time: <u></u>		Relinquished By: <u>4</u>		Date/Time: <u></u>		Received By: <u>4</u>									
Relinquished by: <u>5</u>		Date/Time: <u></u>		Received By: <u>5</u>		Date/Time: <u></u>		Custody Seal # <u></u>		☐ Intact ☐ Not intact		Preserved where applicable ☐ On Ice ☒ Cooler Temp. <u>1.4-0.4°C</u>									

MC44517: Chain of Custody

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Accutest Laboratories of New England
495 Technology Center West, Building One
TEL. 508-481-6200 FAX: 508-481-7753
www.accutest.com

[illegible]

MC44517: Chain of Custody

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SGS Accutest Sample Receipt Summary

Job Number: MC44517

Client: TETRA TECH

Project:

Date / Time Received: 2/24/2016 10:00:00 AM

Delivery Method: FED EX

Airbill #'s:

Cooler Temps (Initial/Adjusted): #1: (0.4/0.4); #2: (1.4/1.4);

Cooler Security

	Y	or	N		Y	or	N
1. Custody Seals Present:	☒		☐	3. COC Present:	☒		☐
2. Custody Seals Intact:	☒		☐	4. Smpl Dates/Time OK	☒		☐

Cooler Temperature

	Y	or	N
1. Temp criteria achieved:	☒		☐
2. Thermometer ID:	;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	2		

Quality Control Preservation

	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☐
2. Trip Blank listed on COC:	☐		☐	☐
3. Samples preserved properly:	☒		☐	
4. VOCs headspace free:	☐		☐	☐

Comments

Sample Integrity - Documentation

	Y	or	N
1. Sample labels present on bottles:	☒		☐
2. Container labeling complete:	☒		☐
3. Sample container label / COC agree:	☒		☐

Sample Integrity - Condition

	Y	or	N
1. Sample recvd within HT:	☒		☐
2. All containers accounted for:	☒		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions

	Y	or	N	N/A
1. Analysis requested is clear:	☒		☐	
2. Bottles received for unspecified tests	☐		☒	
3. Sufficient volume recvd for analysis:	☒		☐	
4. Compositing instructions clear:	☐		☐	☒
5. Filtering instructions clear:	☐		☐	☒

MC44517: Chain of Custody

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GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3656-MB	N100001.D	1	02/26/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-1, MC44517-2, MC44517-3

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	10	ug/l	
71-43-2	Benzene	ND	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
75-15-0	Carbon disulfide	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/l	
75-09-2	Methylene chloride	ND	2.0	ug/l	
100-42-5	Styrene	ND	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	0.50	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	1.0	ug/l	

Method Blank Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3656-MB	N100001.D	1	02/26/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples: Method: SW846 8260C
MC44517-1, MC44517-2, MC44517-3

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 79-127%
2037-26-5	Toluene-D8	100% 80-116%
460-00-4	4-Bromofluorobenzene	97% 77-124%

Method Blank Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2931-MB	K95294.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	500	ug/kg	
71-43-2	Benzene	ND	25	ug/kg	
75-27-4	Bromodichloromethane	ND	100	ug/kg	
75-25-2	Bromoform	ND	100	ug/kg	
74-83-9	Bromomethane	ND	100	ug/kg	
78-93-3	2-Butanone (MEK)	ND	500	ug/kg	
75-15-0	Carbon disulfide	ND	250	ug/kg	
56-23-5	Carbon tetrachloride	ND	100	ug/kg	
108-90-7	Chlorobenzene	ND	100	ug/kg	
75-00-3	Chloroethane	ND	250	ug/kg	
67-66-3	Chloroform	ND	100	ug/kg	
74-87-3	Chloromethane	ND	250	ug/kg	
124-48-1	Dibromochloromethane	ND	100	ug/kg	
75-34-3	1,1-Dichloroethane	ND	100	ug/kg	
107-06-2	1,2-Dichloroethane	ND	100	ug/kg	
75-35-4	1,1-Dichloroethene	ND	100	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	100	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	100	ug/kg	
78-87-5	1,2-Dichloropropane	ND	100	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	100	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	100	ug/kg	
100-41-4	Ethylbenzene	ND	100	ug/kg	
591-78-6	2-Hexanone	ND	500	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	250	ug/kg	
75-09-2	Methylene chloride	ND	100	ug/kg	
100-42-5	Styrene	ND	250	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	ug/kg	
127-18-4	Tetrachloroethene	ND	100	ug/kg	
108-88-3	Toluene	ND	250	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	100	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	100	ug/kg	
79-01-6	Trichloroethene	ND	100	ug/kg	
75-01-4	Vinyl chloride	ND	100	ug/kg	
1330-20-7	Xylene (total)	ND	100	ug/kg	

Method Blank Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2931-MB	K95294.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples: Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	115% 65-141%
2037-26-5	Toluene-D8	98% 65-129%
460-00-4	4-Bromofluorobenzene	93% 63-137%

Method Blank Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2628-MB	H78907.D	1	03/01/16	KP	n/a	n/a	MSH2628

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-17A

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	0.50	ug/l	
78-93-3	2-Butanone (MEK)	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	95% 79-127%
2037-26-5	Toluene-D8	95% 80-116%
460-00-4	4-Bromofluorobenzene	105% 77-124%

Method Blank Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1665-MB	V45686.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	4.3	10	ug/kg	J
71-43-2	Benzene	ND	0.50	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
75-25-2	Bromoform	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	0.40	5.0	ug/kg	J
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1665-MB	V45686.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples: Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 65-141%
2037-26-5	Toluene-D8	98% 65-129%
460-00-4	4-Bromofluorobenzene	104% 63-137%

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Method Blank Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1666-MB	V45711.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	5.2	10	ug/kg	J
71-43-2	Benzene	ND	0.50	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	ug/kg	
74-83-9	Bromomethane	ND	2.0	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	ug/kg	
75-00-3	Chloroethane	ND	5.0	ug/kg	
67-66-3	Chloroform	ND	2.0	ug/kg	
74-87-3	Chloromethane	ND	5.0	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	ug/kg	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/kg	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/kg	
75-35-4	1,1-Dichloroethene	ND	2.0	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/kg	
100-41-4	Ethylbenzene	ND	2.0	ug/kg	
591-78-6	2-Hexanone	ND	10	ug/kg	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/kg	
75-09-2	Methylene chloride	ND	2.0	ug/kg	
100-42-5	Styrene	ND	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	ug/kg	
108-88-3	Toluene	0.44	5.0	ug/kg	J
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/kg	
79-01-6	Trichloroethene	ND	2.0	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	ug/kg	
1330-20-7	Xylene (total)	ND	2.0	ug/kg	

Method Blank Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1666-MB	V45711.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples: Method: SW846 8260C
MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 65-141%
2037-26-5	Toluene-D8	99% 65-129%
460-00-4	4-Bromofluorobenzene	102% 63-137%

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP20162-LB1	H78909.D	10	03/01/16	KP	02/29/16	GP20162	MSH2628

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-17A

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	5.0	ug/l	
78-93-3	2-Butanone (MEK)	ND	100	ug/l	
56-23-5	Carbon tetrachloride	ND	10	ug/l	
108-90-7	Chlorobenzene	ND	10	ug/l	
67-66-3	Chloroform	ND	10	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	ug/l	
127-18-4	Tetrachloroethene	ND	10	ug/l	
79-01-6	Trichloroethene	ND	10	ug/l	
75-01-4	Vinyl chloride	ND	10	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 74-135%
2037-26-5	Toluene-D8	96% 83-116%
460-00-4	4-Bromofluorobenzene	102% 76-124%

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3656-BS	N99999.D	1	02/26/16	CB	n/a	n/a	MSN3656
MSN3656-BSD	N99999.D	1	02/26/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-1, MC44517-2, MC44517-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	75.6	151	73.9	148	2	10-200/25
71-43-2	Benzene	50	48.9	98	47.4	95	3	74-124/25
75-27-4	Bromodichloromethane	50	51.8	104	50.7	101	2	76-136/25
75-25-2	Bromoform	50	53.9	108	52.9	106	2	63-139/25
74-83-9	Bromomethane	50	51.4	103	54.9	110	7	49-161/25
78-93-3	2-Butanone (MEK)	50	68.2	136	64.5	129	6	44-191/25
75-15-0	Carbon disulfide	50	42.2	84	41.6	83	1	45-138/25
56-23-5	Carbon tetrachloride	50	58.0	116	55.9	112	4	64-149/25
108-90-7	Chlorobenzene	50	48.1	96	48.0	96	0	73-114/25
75-00-3	Chloroethane	50	61.4	123	60.8	122	1	43-165/25
67-66-3	Chloroform	50	50.0	100	48.9	98	2	72-132/25
74-87-3	Chloromethane	50	60.0	120	57.1	114	5	30-173/25
124-48-1	Dibromochloromethane	50	49.9	100	49.5	99	1	75-133/25
75-34-3	1,1-Dichloroethane	50	47.1	94	47.4	95	1	62-130/25
107-06-2	1,2-Dichloroethane	50	54.5	109	52.9	106	3	65-140/25
75-35-4	1,1-Dichloroethene	50	48.4	97	48.1	96	1	57-132/25
156-59-2	cis-1,2-Dichloroethene	50	48.9	98	49.6	99	1	72-131/25
156-60-5	trans-1,2-Dichloroethene	50	45.5	91	45.0	90	1	69-127/25
78-87-5	1,2-Dichloropropane	50	52.0	104	51.8	104	0	74-130/25
10061-01-5	cis-1,3-Dichloropropene	50	50.9	102	49.7	99	2	86-141/25
10061-02-6	trans-1,3-Dichloropropene	50	53.2	106	50.2	100	6	80-134/25
100-41-4	Ethylbenzene	50	48.1	96	48.5	97	1	76-125/25
591-78-6	2-Hexanone	50	68.6	137	62.1	124	10	35-200/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	56.8	114	55.5	111	2	61-155/25
75-09-2	Methylene chloride	50	46.9	94	46.5	93	1	62-137/25
100-42-5	Styrene	50	48.4	97	48.7	97	1	74-132/25
79-34-5	1,1,2,2-Tetrachloroethane	50	51.1	102	50.1	100	2	65-145/25
127-18-4	Tetrachloroethene	50	53.0	106	52.3	105	1	73-122/25
108-88-3	Toluene	50	51.1	102	50.2	100	2	80-122/25
71-55-6	1,1,1-Trichloroethane	50	54.4	109	53.1	106	2	68-137/25
79-00-5	1,1,2-Trichloroethane	50	53.9	108	52.6	105	2	76-134/25
79-01-6	Trichloroethene	50	50.8	102	50.1	100	1	80-125/25
75-01-4	Vinyl chloride	50	60.8	122	60.6	121	0	39-176/25
1330-20-7	Xylene (total)	150	142	95	141	94	1	74-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSN3656-BS	N99998.D	1	02/26/16	CB	n/a	n/a	MSN3656
MSN3656-BSD	N99999.D	1	02/26/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-1, MC44517-2, MC44517-3

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	101%	79-127%
2037-26-5	Toluene-D8	101%	100%	80-116%
460-00-4	4-Bromofluorobenzene	96%	94%	77-124%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2931-BS	K95291.D	1	03/01/16	TB	n/a	n/a	MSK2931
MSK2931-BSD	K95292.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	2500	2630	105	3200	128	20	24-179/25
71-43-2	Benzene	2500	2360	94	2410	96	2	73-115/25
75-27-4	Bromodichloromethane	2500	2710	108	2700	108	0	76-122/25
75-25-2	Bromoform	2500	2460	98	2460	98	0	67-151/25
74-83-9	Bromomethane	2500	2930	117	2940	118	0	52-139/25
78-93-3	2-Butanone (MEK)	2500	2140	86	2390	96	11	32-151/25
75-15-0	Carbon disulfide	2500	2460	98	2520	101	2	57-143/25
56-23-5	Carbon tetrachloride	2500	3000	120	2940	118	2	73-129/25
108-90-7	Chlorobenzene	2500	2310	92	2350	94	2	79-123/25
75-00-3	Chloroethane	2500	2920	117	3020	121	3	51-159/25
67-66-3	Chloroform	2500	2630	105	2680	107	2	72-122/25
74-87-3	Chloromethane	2500	2430	97	2540	102	4	57-143/25
124-48-1	Dibromochloromethane	2500	2520	101	2540	102	1	74-139/25
75-34-3	1,1-Dichloroethane	2500	2540	102	2580	103	2	70-128/25
107-06-2	1,2-Dichloroethane	2500	2840	114	2880	115	1	70-126/25
75-35-4	1,1-Dichloroethene	2500	2850	114	2830	113	1	71-136/25
156-59-2	cis-1,2-Dichloroethene	2500	2620	105	2700	108	3	78-128/25
156-60-5	trans-1,2-Dichloroethene	2500	2370	95	2450	98	3	71-131/25
78-87-5	1,2-Dichloropropane	2500	2480	99	2530	101	2	79-124/25
10061-01-5	cis-1,3-Dichloropropene	2500	2580	103	2600	104	1	75-126/25
10061-02-6	trans-1,3-Dichloropropene	2500	2540	102	2550	102	0	75-128/25
100-41-4	Ethylbenzene	2500	2300	92	2340	94	2	76-122/25
591-78-6	2-Hexanone	2500	2170	87	2220	89	2	26-169/25
108-10-1	4-Methyl-2-pentanone (MIBK)	2500	2610	104	2600	104	0	43-166/25
75-09-2	Methylene chloride	2500	2470	99	2610	104	6	74-125/25
100-42-5	Styrene	2500	2290	92	2350	94	3	79-124/25
79-34-5	1,1,2,2-Tetrachloroethane	2500	2480	99	2560	102	3	66-134/25
127-18-4	Tetrachloroethene	2500	2240	90	2260	90	1	76-125/25
108-88-3	Toluene	2500	2380	95	2450	98	3	76-119/25
71-55-6	1,1,1-Trichloroethane	2500	2940	118	2940	118	0	70-130/25
79-00-5	1,1,2-Trichloroethane	2500	2480	99	2570	103	4	75-124/25
79-01-6	Trichloroethene	2500	2440	98	2500	100	2	74-127/25
75-01-4	Vinyl chloride	2500	2790	112	2710	108	3	33-166/25
1330-20-7	Xylene (total)	7500	6710	89	6830	91	2	78-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSK2931-BS	K95291.D	1	03/01/16	TB	n/a	n/a	MSK2931
MSK2931-BSD	K95292.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	106%	106%	65-141%
2037-26-5	Toluene-D8	101%	101%	65-129%
460-00-4	4-Bromofluorobenzene	100%	99%	63-137%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSH2628-BS	H78904.D	1	03/01/16	KP	n/a	n/a	MSH2628
MSH2628-BSD	H78905.D	1	03/01/16	KP	n/a	n/a	MSH2628

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-17A

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50	44.9	90	44.9	90	0	74-124/25
78-93-3	2-Butanone (MEK)	50	48.3	97	47.8	96	1	44-191/25
56-23-5	Carbon tetrachloride	50	55.0	110	52.9	106	4	64-149/25
108-90-7	Chlorobenzene	50	48.4	97	49.1	98	1	73-114/25
67-66-3	Chloroform	50	43.5	87	42.8	86	2	72-132/25
106-46-7	1,4-Dichlorobenzene	50	54.6	109	54.4	109	0	74-120/25
107-06-2	1,2-Dichloroethane	50	49.4	99	48.7	97	1	65-140/25
75-35-4	1,1-Dichloroethene	50	42.5	85	42.0	84	1	57-132/25
127-18-4	Tetrachloroethene	50	52.9	106	53.8	108	2	73-122/25
79-01-6	Trichloroethene	50	47.3	95	47.0	94	1	80-125/25
75-01-4	Vinyl chloride	50	41.1	82	40.5	81	1	39-176/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	99%	79-127%
2037-26-5	Toluene-D8	96%	95%	80-116%
460-00-4	4-Bromofluorobenzene	99%	99%	77-124%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1665-BS	V45682.D	1	03/02/16	KD	n/a	n/a	MSV1665
MSV1665-BSD	V45683.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	42.3	85	39.3	79	7	24-179/25
71-43-2	Benzene	50	48.6	97	47.8	96	2	73-115/25
75-27-4	Bromodichloromethane	50	45.6	91	45.4	91	0	76-122/25
75-25-2	Bromoform	50	34.9	70	34.7	69	1	67-151/25
74-83-9	Bromomethane	50	49.0	98	45.3	91	8	52-139/25
78-93-3	2-Butanone (MEK)	50	36.0	72	37.7	75	5	32-151/25
75-15-0	Carbon disulfide	50	35.4	71	35.3	71	0	57-143/25
56-23-5	Carbon tetrachloride	50	46.4	93	44.5	89	4	73-129/25
108-90-7	Chlorobenzene	50	43.7	87	43.2	86	1	79-123/25
75-00-3	Chloroethane	50	54.0	108	51.2	102	5	51-159/25
67-66-3	Chloroform	50	52.9	106	51.7	103	2	72-122/25
74-87-3	Chloromethane	50	57.1	114	55.0	110	4	57-143/25
124-48-1	Dibromochloromethane	50	38.5	77	38.6	77	0	74-139/25
75-34-3	1,1-Dichloroethane	50	52.5	105	51.2	102	3	70-128/25
107-06-2	1,2-Dichloroethane	50	55.6	111	54.0	108	3	70-126/25
75-35-4	1,1-Dichloroethene	50	47.3	95	47.1	94	0	71-136/25
156-59-2	cis-1,2-Dichloroethene	50	54.2	108	52.8	106	3	78-128/25
156-60-5	trans-1,2-Dichloroethene	50	46.5	93	46.3	93	0	71-131/25
78-87-5	1,2-Dichloropropane	50	51.6	103	51.2	102	1	79-124/25
10061-01-5	cis-1,3-Dichloropropene	50	45.1	90	43.3	87	4	75-126/25
10061-02-6	trans-1,3-Dichloropropene	50	43.5	87	42.1	84	3	75-128/25
100-41-4	Ethylbenzene	50	42.8	86	42.9	86	0	76-122/25
591-78-6	2-Hexanone	50	40.2	80	40.3	81	0	26-169/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	49.8	100	48.9	98	2	43-166/25
75-09-2	Methylene chloride	50	52.0	104	51.7	103	1	74-125/25
100-42-5	Styrene	50	40.1	80	39.7	79	1	79-124/25
79-34-5	1,1,2,2-Tetrachloroethane	50	51.2	102	48.9	98	5	66-134/25
127-18-4	Tetrachloroethene	50	39.7	79	39.8	80	0	76-125/25
108-88-3	Toluene	50	49.5	99	48.2	96	3	76-119/25
71-55-6	1,1,1-Trichloroethane	50	50.1	100	49.4	99	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	52.6	105	50.6	101	4	75-124/25
79-01-6	Trichloroethene	50	44.9	90	44.2	88	2	74-127/25
75-01-4	Vinyl chloride	50	54.0	108	52.1	104	4	33-166/25
1330-20-7	Xylene (total)	150	125	83	125	83	0	78-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1665-BS	V45682.D	1	03/02/16	KD	n/a	n/a	MSV1665
MSV1665-BSD	V45683.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	104%	103%	65-141%
2037-26-5	Toluene-D8	106%	103%	65-129%
460-00-4	4-Bromofluorobenzene	102%	101%	63-137%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1666-BS	V45708.D	1	03/02/16	KD	n/a	n/a	MSV1666
MSV1666-BSD	V45709.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	48.7	97	50.8	102	4	24-179/25
71-43-2	Benzene	50	51.2	102	49.9	100	3	73-115/25
75-27-4	Bromodichloromethane	50	48.7	97	47.3	95	3	76-122/25
74-83-9	Bromomethane	50	48.5	97	50.7	101	4	52-139/25
78-93-3	2-Butanone (MEK)	50	47.8	96	45.6	91	5	32-151/25
75-15-0	Carbon disulfide	50	35.7	71	37.1	74	4	57-143/25
56-23-5	Carbon tetrachloride	50	44.5	89	46.1	92	4	73-129/25
108-90-7	Chlorobenzene	50	47.4	95	45.9	92	3	79-123/25
75-00-3	Chloroethane	50	54.9	110	53.7	107	2	51-159/25
67-66-3	Chloroform	50	54.4	109	54.0	108	1	72-122/25
74-87-3	Chloromethane	50	59.4	119	59.3	119	0	57-143/25
124-48-1	Dibromochloromethane	50	41.4	83	39.6	79	4	74-139/25
75-34-3	1,1-Dichloroethane	50	52.9	106	54.5	109	3	70-128/25
107-06-2	1,2-Dichloroethane	50	57.5	115	55.3	111	4	70-126/25
75-35-4	1,1-Dichloroethene	50	48.6	97	50.7	101	4	71-136/25
156-59-2	cis-1,2-Dichloroethene	50	54.0	108	55.3	111	2	78-128/25
156-60-5	trans-1,2-Dichloroethene	50	47.3	95	49.0	98	4	71-131/25
78-87-5	1,2-Dichloropropane	50	54.8	110	53.2	106	3	79-124/25
10061-01-5	cis-1,3-Dichloropropene	50	45.9	92	46.6	93	2	75-126/25
10061-02-6	trans-1,3-Dichloropropene	50	41.8	84	44.0	88	5	75-128/25
100-41-4	Ethylbenzene	50	48.1	96	46.3	93	4	76-122/25
591-78-6	2-Hexanone	50	45.0	90	42.8	86	5	26-169/25
108-10-1	4-Methyl-2-pentanone (MIBK)	50	48.3	97	49.3	99	2	43-166/25
75-09-2	Methylene chloride	50	51.7	103	53.4	107	3	74-125/25
100-42-5	Styrene	50	42.0	84	40.5	81	4	79-124/25
79-34-5	1,1,2,2-Tetrachloroethane	50	55.3	111	55.6	111	1	66-134/25
127-18-4	Tetrachloroethene	50	49.1	98	45.6	91	7	76-125/25
108-88-3	Toluene	50	50.2	100	51.2	102	2	76-119/25
71-55-6	1,1,1-Trichloroethane	50	51.2	102	51.7	103	1	70-130/25
79-00-5	1,1,2-Trichloroethane	50	49.7	99	51.8	104	4	75-124/25
79-01-6	Trichloroethene	50	50.1	100	48.1	96	4	74-127/25
75-01-4	Vinyl chloride	50	56.3	113	55.8	112	1	33-166/25
1330-20-7	Xylene (total)	150	140	93	134	89	4	78-122/25

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MSV1666-BS	V45708.D	1	03/02/16	KD	n/a	n/a	MSV1666
MSV1666-BSD	V45709.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	101%	103%	65-141%
2037-26-5	Toluene-D8	98%	103%	65-129%
460-00-4	4-Bromofluorobenzene	102%	103%	63-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44516-11MS	N100020.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11MSD	N100021.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11	N100011.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11	N100049.D	50	02/29/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-1, MC44517-2, MC44517-3

CAS No.	Compound	MC44516-11 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/l	Q	ug/l	ug/l	%	ug/l	ug/l		Rec/RPD
67-64-1	Acetone	ND	50	40.9	82	50	41.4	83	1	10-156/30
71-43-2	Benzene	1.1	50	49.6	97	50	47.1	92	5	63-135/30
75-27-4	Bromodichloromethane	ND	50	52.8	106	50	49.3	99	7	69-140/30
75-25-2	Bromoform	ND	50	55.4	111	50	51.8	104	7	57-138/30
74-83-9	Bromomethane	ND	50	52.6	105	50	56.8	114	8	25-169/30
78-93-3	2-Butanone (MEK)	ND	50	47.6	95	50	46.1	92	3	23-159/30
75-15-0	Carbon disulfide	ND	50	41.9	84	50	41.9	84	0	40-139/30
56-23-5	Carbon tetrachloride	ND	50	59.9	120	50	52.9	106	12	60-149/30
108-90-7	Chlorobenzene	0.41	50	47.9	95	50	45.9	91	4	70-115/30
75-00-3	Chloroethane	ND	50	59.3	119	50	61.2	122	3	37-175/30
67-66-3	Chloroform	ND	50	52.9	106	50	49.8	100	6	64-141/30
74-87-3	Chloromethane	ND	50	62.8	126	50	64.9	130	3	21-178/30
124-48-1	Dibromochloromethane	ND	50	51.9	104	50	48.2	96	7	70-131/30
75-34-3	1,1-Dichloroethane	ND	50	47.8	96	50	47.1	94	1	56-138/30
107-06-2	1,2-Dichloroethane	ND	50	57.9	116	50	51.8	104	11	60-146/30
75-35-4	1,1-Dichloroethene	87.4	50	128	81	50	130	85	2	52-137/30
156-59-2	cis-1,2-Dichloroethene	5630 ^b	50	2560	60* ^a	50	2410	-240* ^a	6	64-139/30
156-60-5	trans-1,2-Dichloroethene	101	50	117	32* ^a	50	99.8	-2* ^a	16	63-132/30
78-87-5	1,2-Dichloropropane	ND	50	52.5	105	50	49.7	99	5	67-137/30
10061-01-5	cis-1,3-Dichloropropene	ND	50	51.0	102	50	48.9	98	4	77-142/30
10061-02-6	trans-1,3-Dichloropropene	ND	50	53.0	106	50	50.8	102	4	73-136/30
100-41-4	Ethylbenzene	0.30	50	46.5	92	50	43.8	87	6	60-136/30
591-78-6	2-Hexanone	ND	50	48.8	98	50	47.1	94	4	29-151/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	50	60.9	122	50	57.1	114	6	47-167/30
75-09-2	Methylene chloride	ND	50	48.9	98	50	48.9	98	0	55-144/30
100-42-5	Styrene	ND	50	45.9	92	50	43.4	87	6	61-137/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	51.5	103	50	51.7	103	0	62-149/30
127-18-4	Tetrachloroethene	2140 ^b	50	1330	-140* ^a	50	1220	-360* ^a	9	65-124/30
108-88-3	Toluene	ND	50	51.0	102	50	48.1	96	6	69-134/30
71-55-6	1,1,1-Trichloroethane	ND	50	58.1	116	50	53.8	108	8	61-144/30
79-00-5	1,1,2-Trichloroethane	ND	50	54.2	108	50	52.9	106	2	69-142/30
79-01-6	Trichloroethene	1410 ^b	50	1090	-20* ^a	50	1010	-180* ^a	8	69-133/30
75-01-4	Vinyl chloride	948 ^b	50	908	-72* ^a	50	889	-110* ^a	2	39-176/30
1330-20-7	Xylene (total)	0.83	150	135	89	150	128	85	5	65-127/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44516-11MS	N100020.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11MSD	N100021.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11	N100011.D	1	02/26/16	CB	n/a	n/a	MSN3656
MC44516-11	N100049.D	50	02/29/16	CB	n/a	n/a	MSN3656

The QC reported here applies to the following samples: Method: SW846 8260C

MC44517-1, MC44517-2, MC44517-3

CAS No.	Surrogate Recoveries	MS	MSD	MC44516-11	MC44516-11 Limits
1868-53-7	Dibromofluoromethane	104%	103%	106%	99% 79-127%
2037-26-5	Toluene-D8	102%	97%	100%	99% 80-116%
460-00-4	4-Bromofluorobenzene	97%	97%	101%	105% 77-124%

- (a) Outside control limits due to high level in sample relative to spike amount.
- (b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44516-36MS	K95314.D	1	03/01/16	TB	n/a	n/a	MSK2931
MC44516-36MSD	K95315.D	1	03/01/16	TB	n/a	n/a	MSK2931
MC44516-36	K95298.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Compound	MC44516-36 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits	
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	ug/kg		%	Rec/RPD
67-64-1	Acetone	ND		5330	8120	152	5330	7660	144	6	10-200/30
71-43-2	Benzene	ND		5330	5490	103	5330	4960	93	10	38-135/30
75-27-4	Bromodichloromethane	ND		5330	6270	118	5330	5560	104	12	45-136/30
75-25-2	Bromoform	ND		5330	5560	104	5330	5000	94	11	42-150/30
74-83-9	Bromomethane	ND		5330	6960	131	5330	6220	117	11	20-159/30
78-93-3	2-Butanone (MEK)	ND		5330	6070	114	5330	5430	102	11	10-187/30
75-15-0	Carbon disulfide	ND		5330	5560	104	5330	5150	97	8	29-157/30
56-23-5	Carbon tetrachloride	ND		5330	7080	133	5330	6330	119	11	42-148/30
108-90-7	Chlorobenzene	ND		5330	5240	98	5330	4710	88	11	33-148/30
75-00-3	Chloroethane	ND		5330	6720	126	5330	6090	114	10	32-162/30
67-66-3	Chloroform	ND		5330	6220	117	5330	5470	103	13	46-136/30
74-87-3	Chloromethane	ND		5330	5480	103	5330	5030	94	9	33-152/30
124-48-1	Dibromochloromethane	ND		5330	5700	107	5330	5040	95	12	46-147/30
75-34-3	1,1-Dichloroethane	ND		5330	6070	114	5330	5300	99	14	49-134/30
107-06-2	1,2-Dichloroethane	ND		5330	6640	125	5330	5810	109	13	46-135/30
75-35-4	1,1-Dichloroethene	ND		5330	8600	161* a	5330	6350	119	30	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND		5330	6050	114	5330	5320	100	13	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		5330	5620	105	5330	4880	92	14	44-145/30
78-87-5	1,2-Dichloropropane	ND		5330	5780	108	5330	5240	98	10	48-138/30
10061-01-5	cis-1,3-Dichloropropene	ND		5330	5890	111	5330	5200	98	12	34-149/30
10061-02-6	trans-1,3-Dichloropropene	ND		5330	5790	109	5330	5070	95	13	28-151/30
100-41-4	Ethylbenzene	ND		5330	5250	99	5330	4710	88	11	32-150/30
591-78-6	2-Hexanone	ND		5330	5410	102	5330	4980	93	8	10-184/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		5330	6110	115	5330	5580	105	9	35-164/30
75-09-2	Methylene chloride	ND		5330	5760	108	5330	5240	98	9	48-140/30
100-42-5	Styrene	ND		5330	5210	98	5330	4690	88	11	17-160/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		5330	5620	105	5330	5050	95	11	30-157/30
127-18-4	Tetrachloroethene	6000		5330	10400	83	5330	9370	63	10	40-146/30
108-88-3	Toluene	ND		5330	5670	106	5330	5050	95	12	33-145/30
71-55-6	1,1,1-Trichloroethane	ND		5330	6980	131	5330	6200	116	12	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		5330	5760	108	5330	5240	98	9	40-148/30
79-01-6	Trichloroethene	ND		5330	5650	106	5330	4980	93	13	36-155/30
75-01-4	Vinyl chloride	ND		5330	6690	126	5330	5820	109	14	11-183/30
1330-20-7	Xylene (total)	ND		16000	15200	95	16000	13600	85	11	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44516-36MS	K95314.D	1	03/01/16	TB	n/a	n/a	MSK2931
MC44516-36MSD	K95315.D	1	03/01/16	TB	n/a	n/a	MSK2931
MC44516-36	K95298.D	1	03/01/16	TB	n/a	n/a	MSK2931

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-4, MC44517-5, MC44517-7, MC44517-8, MC44517-10, MC44517-12, MC44517-15, MC44517-16, MC44517-17, MC44517-18, MC44517-19

CAS No.	Surrogate Recoveries	MS	MSD	MC44516-36 Limits	
1868-53-7	Dibromofluoromethane	107%	107%	111%	65-141%
2037-26-5	Toluene-D8	102%	103%	97%	65-129%
460-00-4	4-Bromofluorobenzene	100%	99%	93%	63-137%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44517-11MS	V45698.D	1	03/02/16	KD	n/a	n/a	MSV1665
MC44517-11MSD	V45699.D	1	03/02/16	KD	n/a	n/a	MSV1665
MC44517-11	V45695.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Compound	MC44517-11 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/kg	Q ug/kg	ug/kg	%	ug/kg	ug/kg	%		Rec/RPD
67-64-1	Acetone	7.1	47.4	23.4	34	48.8	34.8	57	39* a	10-200/30
71-43-2	Benzene	ND	47.4	5.6	12* a	48.8	11.0	23* a	65* a	38-135/30
75-27-4	Bromodichloromethane	ND	47.4	1.7	4* a	48.8	3.5	7* a	69* a	45-136/30
75-25-2	Bromoform	ND	47.4	ND	0* a	48.8	0.58	1* a	200* a	42-150/30
74-83-9	Bromomethane	ND	47.4	12.4	26	48.8	16.8	34	30	20-159/30
78-93-3	2-Butanone (MEK)	ND	47.4	12.2	26	48.8	16.9	35	32* a	10-187/30
75-15-0	Carbon disulfide	ND	47.4	7.1	15* a	48.8	15.3	31	73* a	29-157/30
56-23-5	Carbon tetrachloride	ND	47.4	6.8	14* a	48.8	14.8	30* a	74* a	42-148/30
108-90-7	Chlorobenzene	ND	47.4	1.5	3* a	48.8	3.4	7* a	78* a	33-148/30
75-00-3	Chloroethane	ND	47.4	20.5	43	48.8	32.3	66	45* a	32-162/30
67-66-3	Chloroform	ND	47.4	7.2	15* a	48.8	12.5	26* a	54* a	46-136/30
74-87-3	Chloromethane	ND	47.4	29.7	63	48.8	40.4	83	31* a	33-152/30
124-48-1	Dibromochloromethane	ND	47.4	0.64	1* a	48.8	1.5	3* a	80* a	46-147/30
75-34-3	1,1-Dichloroethane	ND	47.4	8.9	19* a	48.8	16.2	33* a	58* a	49-134/30
107-06-2	1,2-Dichloroethane	ND	47.4	5.7	12* a	48.8	9.7	20* a	52* a	46-135/30
75-35-4	1,1-Dichloroethene	ND	47.4	14.5	31* a	48.8	27.1	56	61* a	46-148/30
156-59-2	cis-1,2-Dichloroethene	ND	47.4	7.5	16* a	48.8	13.5	28* a	57* a	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND	47.4	9.5	20* a	48.8	18.3	38* a	63* a	44-145/30
78-87-5	1,2-Dichloropropane	ND	47.4	3.5	7* a	48.8	6.7	14* a	63* a	48-138/30
10061-01-5	cis-1,3-Dichloropropene	ND	47.4	1.4	3* a	48.8	2.9	6* a	70* a	34-149/30
10061-02-6	trans-1,3-Dichloropropene	ND	47.4	0.96	2* a	48.8	1.9	4* a	66* a	28-151/30
100-41-4	Ethylbenzene	ND	47.4	1.8	4* a	48.8	4.5	9* a	86* a	32-150/30
591-78-6	2-Hexanone	ND	47.4	1.7	4* a	48.8	3.0	6* a	55* a	10-184/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	47.4	2.5	5* a	48.8	4.0	8* a	46* a	35-164/30
75-09-2	Methylene chloride	ND	47.4	13.0	27* a	48.8	20.9	43* a	47* a	48-140/30
100-42-5	Styrene	ND	47.4	0.71	1* a	48.8	1.7	3* a	82* a	17-160/30
79-34-5	1,1,2,2-Tetrachloroethane	ND	47.4	1.3	3* a	48.8	2.2	5* a	51* a	30-157/30
127-18-4	Tetrachloroethene	ND	47.4	3.3	7* a	48.8	8.7	18* a	90* a	40-146/30
108-88-3	Toluene	ND	47.4	2.9	6* a	48.8	6.2	13* a	73* a	33-145/30
71-55-6	1,1,1-Trichloroethane	ND	47.4	11.7	25* a	48.8	21.3	44	58* a	41-147/30
79-00-5	1,1,2-Trichloroethane	ND	47.4	1.7	4* a	48.8	3.1	6* a	58* a	40-148/30
79-01-6	Trichloroethene	ND	47.4	4.3	9* a	48.8	9.7	20* a	77* a	36-155/30
75-01-4	Vinyl chloride	ND	47.4	26.6	56	48.8	38.7	79	37* a	11-183/30
1330-20-7	Xylene (total)	ND	142	4.3	3* a	146	11.1	8* a	88* a	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44517-11MS	V45698.D	1	03/02/16	KD	n/a	n/a	MSV1665
MC44517-11MSD	V45699.D	1	03/02/16	KD	n/a	n/a	MSV1665
MC44517-11	V45695.D	1	03/02/16	KD	n/a	n/a	MSV1665

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-11, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44517-11 Limits	
1868-53-7	Dibromofluoromethane	113%	105%	113%	65-141%
2037-26-5	Toluene-D8	95%	93%	92%	65-129%
460-00-4	4-Bromofluorobenzene	130%	127%	135%	63-137%

(a) Outside control limits due to possible matrix interference. Refer to Blank Spike.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44517-13MS	V45730.D	1	03/03/16	KD	n/a	n/a	MSV1666
MC44517-13MSD	V45731.D	1	03/03/16	KD	n/a	n/a	MSV1666
MC44517-13	V45718.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Compound	MC44517-13 Spike		MS	MS	Spike	MSD	MSD	RPD	Limits
		ug/kg	Q	ug/kg	ug/kg	%	ug/kg	ug/kg		Rec/RPD
67-64-1	Acetone	11.3	B	50.7	82.8	141	55.3	97.4	156	10-200/30
71-43-2	Benzene	2.9		50.7	40.3	74	55.3	45.4	77	38-135/30
75-27-4	Bromodichloromethane	ND		50.7	36.4	72	55.3	39.1	71	45-136/30
74-83-9	Bromomethane	ND		50.7	45.0	89	55.3	52.2	94	20-159/30
78-93-3	2-Butanone (MEK)	ND		50.7	50.3	99	55.3	50.9	92	10-187/30
75-15-0	Carbon disulfide	ND		50.7	27.8	55	55.3	32.5	59	29-157/30
56-23-5	Carbon tetrachloride	ND		50.7	34.5	68	55.3	41.0	74	42-148/30
108-90-7	Chlorobenzene	ND		50.7	32.3	64	55.3	34.7	63	33-148/30
75-00-3	Chloroethane	ND		50.7	49.6	98	55.3	57.7	104	32-162/30
67-66-3	Chloroform	ND		50.7	43.8	86	55.3	49.7	90	46-136/30
74-87-3	Chloromethane	ND		50.7	48.9	97	55.3	55.7	101	33-152/30
124-48-1	Dibromochloromethane	ND		50.7	27.7	55	55.3	29.1	53	46-147/30
75-34-3	1,1-Dichloroethane	ND		50.7	44.9	89	55.3	50.5	91	49-134/30
107-06-2	1,2-Dichloroethane	ND		50.7	45.0	89	55.3	50.2	91	46-135/30
75-35-4	1,1-Dichloroethene	ND		50.7	41.0	81	55.3	46.4	84	46-148/30
156-59-2	cis-1,2-Dichloroethene	1.3		50.7	43.9	84	55.3	50.0	88	46-144/30
156-60-5	trans-1,2-Dichloroethene	ND		50.7	39.5	78	55.3	45.1	81	44-145/30
78-87-5	1,2-Dichloropropane	ND		50.7	42.7	84	55.3	46.6	84	48-138/30
10061-01-5	cis-1,3-Dichloropropene	ND		50.7	32.8	65	55.3	36.1	65	34-149/30
10061-02-6	trans-1,3-Dichloropropene	ND		50.7	29.8	59	55.3	33.2	60	28-151/30
100-41-4	Ethylbenzene	0.80		50.7	34.0	66	55.3	36.5	64	32-150/30
591-78-6	2-Hexanone	ND		50.7	37.5	74	55.3	41.1	74	10-184/30
108-10-1	4-Methyl-2-pentanone (MIBK)	ND		50.7	38.9	77	55.3	43.0	78	35-164/30
75-09-2	Methylene chloride	ND		50.7	44.0	87	55.3	49.4	89	48-140/30
100-42-5	Styrene	ND		50.7	27.5	54	55.3	29.2	53	17-160/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		50.7	37.0	73	55.3	39.3	71	30-157/30
127-18-4	Tetrachloroethene	60.5		50.7	53.9	-13* a	55.3	59.0	-3* a	40-146/30
108-88-3	Toluene	3.8		50.7	46.9	85	55.3	51.3	86	33-145/30
71-55-6	1,1,1-Trichloroethane	ND		50.7	41.5	82	55.3	46.8	85	41-147/30
79-00-5	1,1,2-Trichloroethane	ND		50.7	38.9	77	55.3	43.3	78	40-148/30
79-01-6	Trichloroethene	1.0		50.7	39.3	76	55.3	43.1	76	36-155/30
75-01-4	Vinyl chloride	ND		50.7	47.9	95	55.3	55.2	100	11-183/30
1330-20-7	Xylene (total)	1.3		152	97.1	63	166	104	62	33-150/30

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
MC44517-13MS	V45730.D	1	03/03/16	KD	n/a	n/a	MSV1666
MC44517-13MSD	V45731.D	1	03/03/16	KD	n/a	n/a	MSV1666
MC44517-13	V45718.D	1	03/02/16	KD	n/a	n/a	MSV1666

The QC reported here applies to the following samples: Method: SW846 8260C
MC44517-6, MC44517-9, MC44517-13, MC44517-14

CAS No.	Surrogate Recoveries	MS	MSD	MC44517-13 Limits	
1868-53-7	Dibromofluoromethane	105%	107%	119%	65-141%
2037-26-5	Toluene-D8	101%	103%	102%	65-129%
460-00-4	4-Bromofluorobenzene	102%	101%	105%	63-137%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Leachate Spike Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GP20162-LS1	H78924.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628
MC44516-18A	H78913.D	100	03/01/16	KP	02/29/16	GP20162	MSH2628

The QC reported here applies to the following samples:

Method: SW846 8260C

MC44517-17A

CAS No.	Compound	MC44516-18A ug/l	Spike Q ug/l	LS ug/l	LS %	Limits
71-43-2	Benzene	ND	5000	4420	88	63-125
78-93-3	2-Butanone (MEK)	ND	5000	3920	78	10-158
56-23-5	Carbon tetrachloride	ND	5000	5260	105	48-153
108-90-7	Chlorobenzene	ND	5000	4750	95	68-117
67-66-3	Chloroform	ND	5000	4290	86	57-137
106-46-7	1,4-Dichlorobenzene	ND	5000	5410	108	66-114
107-06-2	1,2-Dichloroethane	ND	5000	5000	100	48-146
75-35-4	1,1-Dichloroethene	ND	5000	4150	83	47-150
127-18-4	Tetrachloroethene	ND	5000	5080	102	71-117
79-01-6	Trichloroethene	ND	5000	4680	94	67-121
75-01-4	Vinyl chloride	ND	5000	4570	91	49-151

CAS No.	Surrogate Recoveries	LS	MC44516-18A	Limits
1868-53-7	Dibromofluoromethane	100%	94%	74-135%
2037-26-5	Toluene-D8	96%	97%	83-116%
460-00-4	4-Bromofluorobenzene	98%	104%	76-124%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-BFB	Injection Date: 02/19/16
Lab File ID: H78625.D	Injection Time: 17:34
Instrument ID: GCMSH	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	34693	16.4	Pass
75	30.0 - 60.0% of mass 95	118420	56.1	Pass
95	Base peak, 100% relative abundance	211114	100.0	Pass
96	5.0 - 9.0% of mass 95	15031	7.12	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 150.0% of mass 95	194453	92.1	Pass
175	5.0 - 9.0% of mass 174	14627	6.93 (7.52) ^a	Pass
176	95.0 - 101.0% of mass 174	195285	92.5 (100.4) ^a	Pass
177	5.0 - 9.0% of mass 176	13473	6.38 (6.90) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSH2619-IC2619	H78626.D	02/19/16	18:01	00:27	Initial cal 0.5
MSH2619-IC2619	H78627.D	02/19/16	18:27	00:53	Initial cal 1
MSH2619-IC2619	H78628.D	02/19/16	18:54	01:20	Initial cal 2
MSH2619-IC2619	H78629.D	02/19/16	19:21	01:47	Initial cal 5
MSH2619-IC2619	H78630.D	02/19/16	19:48	02:14	Initial cal 10
MSH2619-IC2619	H78631.D	02/19/16	20:14	02:40	Initial cal 20
MSH2619-ICC2619	H78632.D	02/19/16	20:41	03:07	Initial cal 50
MSH2619-IC2619	H78633.D	02/19/16	21:08	03:34	Initial cal 100
MSH2619-IC2619	H78634.D	02/19/16	21:34	04:00	Initial cal 200
MSH2619-IC2619	H78635.D	02/19/16	22:01	04:27	Initial cal 400
MSH2619-ICV2619	H78638.D	02/19/16	23:21	05:47	Initial cal verification 50

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2628-BFB
Lab File ID: H78903.D
Instrument ID: GCMSH
Injection Date: 03/01/16
Injection Time: 12:49

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	33590	17.6	Pass
75	30.0 - 60.0% of mass 95	113195	59.3	Pass
95	Base peak, 100% relative abundance	190846	100.0	Pass
96	5.0 - 9.0% of mass 95	13615	7.13	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 150.0% of mass 95	175528	92.0	Pass
175	5.0 - 9.0% of mass 174	13305	6.97 (7.58) ^a	Pass
176	95.0 - 101.0% of mass 174	176942	92.7 (100.8) ^a	Pass
177	5.0 - 9.0% of mass 176	11622	6.09 (6.57) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSH2628-BS	H78904.D	03/01/16	13:16	00:27	Blank Spike
MSH2628-CC2619	H78904.D	03/01/16	13:16	00:27	Continuing cal 50
MSH2628-BSD	H78905.D	03/01/16	13:42	00:53	Blank Spike Duplicate
MSH2628-MB	H78907.D	03/01/16	14:36	01:47	Method Blank
GP20161-LB1	H78908.D	03/01/16	15:03	02:14	Leachate Blank
GP20162-LB1	H78909.D	03/01/16	15:30	02:41	Leachate Blank
ZZZZZZ	H78910.D	03/01/16	15:56	03:07	(unrelated sample)
ZZZZZZ	H78911.D	03/01/16	16:23	03:34	(unrelated sample)
ZZZZZZ	H78912.D	03/01/16	16:50	04:01	(unrelated sample)
ZZZZZZ	H78913.D	03/01/16	17:16	04:27	(unrelated sample)
ZZZZZZ	H78914.D	03/01/16	17:43	04:54	(unrelated sample)
ZZZZZZ	H78915.D	03/01/16	18:10	05:21	(unrelated sample)
ZZZZZZ	H78916.D	03/01/16	18:37	05:48	(unrelated sample)
MC44517-17A	H78917.D	03/01/16	19:03	06:14	TT-115A-0810
ZZZZZZ	H78918.D	03/01/16	19:30	06:41	(unrelated sample)
ZZZZZZ	H78919.D	03/01/16	19:57	07:08	(unrelated sample)
ZZZZZZ	H78920.D	03/01/16	20:23	07:34	(unrelated sample)
ZZZZZZ	H78922.D	03/01/16	21:17	08:28	(unrelated sample)
GP20161-LS1	H78923.D	03/01/16	21:44	08:55	Leachate Spike
GP20162-LS1	H78924.D	03/01/16	22:10	09:21	Leachate Spike

Instrument Performance Check (BFB)

Page 1 of 1

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2920-BFB	Injection Date: 02/15/16
Lab File ID: K94868.D	Injection Time: 16:45
Instrument ID: GCMSK	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	10815	19.4	Pass
75	30.0 - 60.0% of mass 95	25672	46.2	Pass
95	Base peak, 100% relative abundance	55617	100.0	Pass
96	5.0 - 9.0% of mass 95	4028	7.24	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 100.0% of mass 95	53751	96.6	Pass
175	5.0 - 9.0% of mass 174	3954	7.11 (7.36) ^a	Pass
176	95.0 - 101.0% of mass 174	53584	96.3 (99.7) ^a	Pass
177	5.0 - 9.0% of mass 176	3480	6.26 (6.49) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSK2920-IC2920	K94868.D	02/15/16	16:45	00:00	Initial cal .5
MSK2920-IC2920	K94869.D	02/15/16	17:13	00:28	Initial cal 1
MSK2920-IC2920	K94870.D	02/15/16	17:40	00:55	Initial cal 2
MSK2920-IC2920	K94871.D	02/15/16	18:08	01:23	Initial cal 5
MSK2920-IC2920	K94872.D	02/15/16	18:54	02:09	Initial cal 10
ZZZZZZ	K94873A.D	02/15/16	19:22	02:37	(unrelated sample)
MSK2920-IC2920	K94873.D	02/15/16	19:22	02:37	Initial cal 25
MSK2920-ICC2920	K94874.D	02/15/16	19:49	03:04	Initial cal 50
MSK2920-IC2920	K94875.D	02/15/16	20:16	03:31	Initial cal 100
MSK2920-IC2920	K94876.D	02/15/16	20:44	03:59	Initial cal 200
MSK2920-IC2920	K94877.D	02/15/16	21:11	04:26	Initial cal 400
MSK2920-ICV2920	K94880.D	02/15/16	22:35	05:50	Initial cal verification 50

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2931-BFB
Lab File ID: K95291.D
Instrument ID: GCMSK
Injection Date: 03/01/16
Injection Time: 12:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	8717	20.0	Pass
75	30.0 - 60.0% of mass 95	22624	52.0	Pass
95	Base peak, 100% relative abundance	43496	100.0	Pass
96	5.0 - 9.0% of mass 95	2817	6.48	Pass
173	Less than 2.0% of mass 174	0	0.00 (0.00) ^a	Pass
174	50.0 - 100.0% of mass 95	43184	99.3	Pass
175	5.0 - 9.0% of mass 174	2857	6.57 (6.62) ^a	Pass
176	95.0 - 101.0% of mass 174	42456	97.6 (98.3) ^a	Pass
177	5.0 - 9.0% of mass 176	2812	6.46 (6.62) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSK2931-CC2920	K95291.D	03/01/16	12:54	00:00	Continuing cal 50
MSK2931-BS	K95291.D	03/01/16	12:54	00:00	Blank Spike
MSK2931-BSD	K95292.D	03/01/16	13:21	00:27	Blank Spike Duplicate
MSK2931-MB	K95294.D	03/01/16	14:16	01:22	Method Blank
ZZZZZZ	K95295.D	03/01/16	14:44	01:50	(unrelated sample)
ZZZZZZ	K95296.D	03/01/16	15:11	02:17	(unrelated sample)
ZZZZZZ	K95297.D	03/01/16	15:39	02:45	(unrelated sample)
MC44516-36	K95298.D	03/01/16	16:06	03:12	(used for QC only; not part of job MC44517)
MC44517-4	K95299.D	03/01/16	16:34	03:40	TT-113-0002
MC44517-5	K95300.D	03/01/16	17:02	04:08	TT-113-0406
MC44517-7	K95301.D	03/01/16	17:29	04:35	TT-114-0002
MC44517-8	K95302.D	03/01/16	17:57	05:03	TT-114-0406
MC44517-10	K95303.D	03/01/16	18:25	05:31	TT-115A-1012
MC44517-12	K95304.D	03/01/16	18:52	05:58	TT-115-0608
MC44517-15	K95305.D	03/01/16	19:20	06:26	TT-116-0002
MC44517-16	K95306.D	03/01/16	19:48	06:54	TT-116-0608
MC44517-17	K95307.D	03/01/16	20:16	07:22	TT-115A-0810
MC44517-18	K95308.D	03/01/16	20:44	07:50	TT-117-0002
MC44517-19	K95309.D	03/01/16	21:11	08:17	TT-117-0608
ZZZZZZ	K95310.D	03/01/16	21:39	08:45	(unrelated sample)
ZZZZZZ	K95311.D	03/01/16	22:06	09:12	(unrelated sample)
ZZZZZZ	K95312.D	03/01/16	22:34	09:40	(unrelated sample)
ZZZZZZ	K95313.D	03/01/16	23:02	10:08	(unrelated sample)
MC44516-36MS	K95314.D	03/01/16	23:29	10:35	Matrix Spike

Instrument Performance Check (BFB)

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample:	MSK2931-BFB	Injection Date:	03/01/16
Lab File ID:	K95291.D	Injection Time:	12:54
Instrument ID:	GCMSK		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MC44516-36MSD	K95315.D	03/01/16	23:57	11:03	Matrix Spike Duplicate

6.6.4
6

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-BFB
Lab File ID: N99828.D
Instrument ID: GCMSN
Injection Date: 02/18/16
Injection Time: 11:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	30709	20.9	Pass
75	30.0 - 60.0% of mass 95	69688	47.5	Pass
95	Base peak, 100% relative abundance	146731	100.0	Pass
96	5.0 - 9.0% of mass 95	9843	6.71	Pass
173	Less than 2.0% of mass 174	1250	0.85 (0.90) ^a	Pass
174	50.0 - 100.0% of mass 95	139605	95.1	Pass
175	5.0 - 9.0% of mass 174	9879	6.73 (7.08) ^a	Pass
176	95.0 - 101.0% of mass 174	138155	94.2 (99.0) ^a	Pass
177	5.0 - 9.0% of mass 176	8903	6.07 (6.44) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSN3649-IC3649	N99829.D	02/18/16	11:49	00:28	Initial cal 0.5
MSN3649-IC3649	N99830.D	02/18/16	12:17	00:56	Initial cal 1
MSN3649-IC3649	N99831.D	02/18/16	12:45	01:24	Initial cal 2
MSN3649-IC3649	N99832.D	02/18/16	13:13	01:52	Initial cal 5
MSN3649-IC3649	N99833.D	02/18/16	13:40	02:19	Initial cal 10
MSN3649-IC3649	N99834.D	02/18/16	14:08	02:47	Initial cal 20
MSN3649-ICC3649	N99835.D	02/18/16	14:36	03:15	Initial cal 50
MSN3649-IC3649	N99836.D	02/18/16	15:04	03:43	Initial cal 100
MSN3649-IC3649	N99837.D	02/18/16	15:31	04:10	Initial cal 200
MSN3649-IC3649	N99838.D	02/18/16	15:59	04:38	Initial cal 400
MSN3649-ICV3649	N99841.D	02/18/16	17:22	06:01	Initial cal verification 50

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3656-BFB
Lab File ID: N99998.D
Instrument ID: GCMSN
Injection Date: 02/26/16
Injection Time: 09:34

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	32902	21.7	Pass
75	30.0 - 60.0% of mass 95	71249	46.9	Pass
95	Base peak, 100% relative abundance	151902	100.0	Pass
96	5.0 - 9.0% of mass 95	9807	6.46	Pass
173	Less than 2.0% of mass 174	1320	0.87 (0.91) ^a	Pass
174	50.0 - 100.0% of mass 95	144835	95.3	Pass
175	5.0 - 9.0% of mass 174	10394	6.84 (7.18) ^a	Pass
176	95.0 - 101.0% of mass 174	144168	94.9 (99.5) ^a	Pass
177	5.0 - 9.0% of mass 176	9411	6.20 (6.53) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSN3656-CC3649	N99998.D	02/26/16	09:34	00:00	Continuing cal 50
MSN3656-BS	N99998.D	02/26/16	09:34	00:00	Blank Spike
MSN3656-BSD	N99999.D	02/26/16	10:02	00:28	Blank Spike Duplicate
MSN3656-MB	N100001.D	02/26/16	10:59	01:25	Method Blank
ZZZZZZ	N100003.D	02/26/16	11:56	02:22	(unrelated sample)
ZZZZZZ	N100005.D	02/26/16	12:52	03:18	(unrelated sample)
ZZZZZZ	N100006.D	02/26/16	13:21	03:47	(unrelated sample)
ZZZZZZ	N100007.D	02/26/16	13:49	04:15	(unrelated sample)
ZZZZZZ	N100008.D	02/26/16	14:17	04:43	(unrelated sample)
ZZZZZZ	N100010.D	02/26/16	15:55	06:21	(unrelated sample)
MC44516-11	N100011.D	02/26/16	16:24	06:50	(used for QC only; not part of job MC44517)
ZZZZZZ	N100012.D	02/26/16	16:52	07:18	(unrelated sample)
ZZZZZZ	N100014.D	02/26/16	17:49	08:15	(unrelated sample)
ZZZZZZ	N100015.D	02/26/16	18:17	08:43	(unrelated sample)
ZZZZZZ	N100016.D	02/26/16	18:45	09:11	(unrelated sample)
MC44517-1	N100017.D	02/26/16	19:14	09:40	MW-1000
MC44517-2	N100018.D	02/26/16	19:42	10:08	MW-1300
MC44517-3	N100019.D	02/26/16	20:11	10:37	MW-1800
MC44516-11MS	N100020.D	02/26/16	20:39	11:05	Matrix Spike
MC44516-11MSD	N100021.D	02/26/16	21:07	11:33	Matrix Spike Duplicate

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1661-BFB
Lab File ID: V45589.D
Instrument ID: GCMSV
Injection Date: 02/27/16
Injection Time: 10:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	12185	18.4	Pass
75	30.0 - 60.0% of mass 95	29941	45.2	Pass
95	Base peak, 100% relative abundance	66301	100.0	Pass
96	5.0 - 9.0% of mass 95	4850	7.32	Pass
173	Less than 2.0% of mass 174	396	0.60 (0.72) ^a	Pass
174	50.0 - 100.0% of mass 95	54872	82.8	Pass
175	5.0 - 9.0% of mass 174	4006	6.04 (7.30) ^a	Pass
176	95.0 - 101.0% of mass 174	52432	79.1 (95.6) ^a	Pass
177	5.0 - 9.0% of mass 176	3613	5.45 (6.89) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSV1661-IC1661	V45590.D	02/27/16	11:16	00:29	Initial cal 0.5
MSV1661-IC1661	V45591.D	02/27/16	11:45	00:58	Initial cal 2
MSV1661-IC1661	V45592.D	02/27/16	12:15	01:28	Initial cal 5
MSV1661-IC1661	V45593.D	02/27/16	12:44	01:57	Initial cal 10
MSV1661-IC1661	V45594.D	02/27/16	13:13	02:26	Initial cal 20
MSV1661-ICC1661	V45595.D	02/27/16	13:42	02:55	Initial cal 50
MSV1661-IC1661	V45596.D	02/27/16	14:11	03:24	Initial cal 100
MSV1661-IC1661	V45597.D	02/27/16	14:41	03:54	Initial cal 200
MSV1661-IC1661	V45598.D	02/27/16	15:10	04:23	Initial cal 400
MSV1661-ICV1661	V45601.D	02/27/16	16:38	05:51	Initial cal verification 50

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1665-BFB
Lab File ID: V45682.D
Instrument ID: GCMSV
Injection Date: 03/02/16
Injection Time: 03:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	10444	20.1	Pass
75	30.0 - 60.0% of mass 95	25736	49.5	Pass
95	Base peak, 100% relative abundance	51968	100.0	Pass
96	5.0 - 9.0% of mass 95	3526	6.78	Pass
173	Less than 2.0% of mass 174	348	0.67 (0.83) ^a	Pass
174	50.0 - 100.0% of mass 95	41704	80.2	Pass
175	5.0 - 9.0% of mass 174	3361	6.47 (8.06) ^a	Pass
176	95.0 - 101.0% of mass 174	40168	77.3 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	2588	4.98 (6.44) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSV1665-BS	V45682.D	03/02/16	03:14	00:00	Blank Spike
MSV1665-CC1661	V45682.D	03/02/16	03:14	00:00	Continuing cal 50
MSV1665-BSD	V45683.D	03/02/16	03:43	00:29	Blank Spike Duplicate
MSV1665-MB	V45686.D	03/02/16	05:11	01:57	Method Blank
ZZZZZZ	V45687.D	03/02/16	05:40	02:26	(unrelated sample)
ZZZZZZ	V45688.D	03/02/16	06:08	02:54	(unrelated sample)
ZZZZZZ	V45690.D	03/02/16	07:07	03:53	(unrelated sample)
MC44517-6	V45693.D	03/02/16	08:34	05:20	TT-113-1012
MC44517-9	V45694.D	03/02/16	09:04	05:50	TT-114-1012
MC44517-11	V45695.D	03/02/16	09:33	06:19	TT-116-1012
MC44517-13	V45696.D	03/02/16	10:02	06:48	TT-115-0204
MC44517-14	V45697.D	03/02/16	10:31	07:17	TT-117-1012
MC44517-11MS	V45698.D	03/02/16	11:00	07:46	Matrix Spike
MC44517-11MSD	V45699.D	03/02/16	11:30	08:16	Matrix Spike Duplicate
ZZZZZZ	V45700.D	03/02/16	11:59	08:45	(unrelated sample)
ZZZZZZ	V45701.D	03/02/16	12:28	09:14	(unrelated sample)
ZZZZZZ	V45702.D	03/02/16	12:57	09:43	(unrelated sample)

Instrument Performance Check (BFB)

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1666-BFB
Lab File ID: V45707.D
Instrument ID: GCMSV
Injection Date: 03/02/16
Injection Time: 15:25

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	9858	19.7	Pass
75	30.0 - 60.0% of mass 95	23805	47.5	Pass
95	Base peak, 100% relative abundance	50067	100.0	Pass
96	5.0 - 9.0% of mass 95	3453	6.90	Pass
173	Less than 2.0% of mass 174	295	0.59 (0.73) ^a	Pass
174	50.0 - 100.0% of mass 95	40501	80.9	Pass
175	5.0 - 9.0% of mass 174	2975	5.94 (7.35) ^a	Pass
176	95.0 - 101.0% of mass 174	39557	79.0 (97.7) ^a	Pass
177	5.0 - 9.0% of mass 176	2651	5.29 (6.70) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
MSV1666-CC1661	V45707.D	03/02/16	15:25	00:00	Continuing cal 50
MSV1666-BS	V45708.D	03/02/16	15:54	00:29	Blank Spike
MSV1666-BSD	V45709.D	03/02/16	16:24	00:59	Blank Spike Duplicate
MSV1666-MB	V45711.D	03/02/16	17:22	01:57	Method Blank
ZZZZZZ	V45712.D	03/02/16	17:51	02:26	(unrelated sample)
ZZZZZZ	V45713.D	03/02/16	18:20	02:55	(unrelated sample)
ZZZZZZ	V45714.D	03/02/16	18:50	03:25	(unrelated sample)
ZZZZZZ	V45715.D	03/02/16	19:19	03:54	(unrelated sample)
MC44517-6	V45716.D	03/02/16	19:48	04:23	TT-113-1012
MC44517-9	V45717.D	03/02/16	20:17	04:52	TT-114-1012
MC44517-13	V45718.D	03/02/16	20:46	05:21	TT-115-0204
MC44517-14	V45719.D	03/02/16	21:16	05:51	TT-117-1012
ZZZZZZ	V45720.D	03/02/16	21:45	06:20	(unrelated sample)
ZZZZZZ	V45721.D	03/02/16	22:14	06:49	(unrelated sample)
ZZZZZZ	V45722.D	03/02/16	22:43	07:18	(unrelated sample)
ZZZZZZ	V45723.D	03/02/16	23:13	07:48	(unrelated sample)
ZZZZZZ	V45724.D	03/02/16	23:42	08:17	(unrelated sample)
ZZZZZZ	V45725.D	03/03/16	00:12	08:47	(unrelated sample)
ZZZZZZ	V45726.D	03/03/16	00:41	09:16	(unrelated sample)
ZZZZZZ	V45727.D	03/03/16	01:10	09:45	(unrelated sample)
ZZZZZZ	V45728.D	03/03/16	01:39	10:14	(unrelated sample)
ZZZZZZ	V45729.D	03/03/16	02:08	10:43	(unrelated sample)
MC44517-13MS	V45730.D	03/03/16	02:37	11:12	Matrix Spike
MC44517-13MSD	V45731.D	03/03/16	03:06	11:41	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Check Std: MSH2628-CC2619	Injection Date: 03/01/16
Lab File ID: H78904.D	Injection Time: 13:16
Instrument ID: GCMSH	Method: SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	540441	8.60	683923	9.47	432620	12.72	454187	15.29	270143	6.19
Upper Limit ^a	1080882	9.10	1367846	9.97	865240	13.22	908374	15.79	540286	6.69
Lower Limit ^b	270221	8.10	341962	8.97	216310	12.22	227094	14.79	135072	5.69

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSH2628-BS	540441	8.60	683923	9.47	432620	12.72	454187	15.29	270143	6.19
MSH2628-BSD	567392	8.60	725689	9.47	445602	12.72	465871	15.29	272349	6.19
MSH2628-MB	539526	8.60	677086	9.47	388085	12.73	379898	15.29	263965	6.19
GP20161-LB1	533060	8.60	662960	9.47	391127	12.73	384395	15.30	261421	6.19
GP20162-LB1	520582	8.60	638529	9.47	382544	12.73	381721	15.30	268820	6.20
ZZZZZZ	512239	8.60	640933	9.47	372808	12.73	401302	15.29	248021	6.20
ZZZZZZ	527159	8.60	646779	9.47	379860	12.73	387482	15.29	252253	6.18
ZZZZZZ	513750	8.60	649288	9.46	383177	12.73	399869	15.29	250700	6.19
ZZZZZZ	521197	8.60	643294	9.47	373628	12.73	370341	15.29	250756	6.19
ZZZZZZ	513892	8.60	644281	9.47	373908	12.73	364294	15.30	249382	6.18
ZZZZZZ	499344	8.60	612210	9.47	360562	12.73	347794	15.29	247369	6.19
ZZZZZZ	487714	8.60	614973	9.47	359773	12.73	354363	15.30	238340	6.19
MC44517-17A	482735	8.60	598942	9.47	352778	12.73	339345	15.30	236633	6.19
ZZZZZZ	455897	8.60	565586	9.47	333118	12.73	330461	15.30	221348	6.20
ZZZZZZ	467745	8.60	578881	9.47	341961	12.73	337863	15.29	224658	6.19
ZZZZZZ	469665	8.60	575892	9.47	341411	12.73	340919	15.30	222567	6.19
ZZZZZZ	439821	8.60	546751	9.47	326580	12.73	326169	15.30	224928	6.19
GP20161-LS1	479299	8.60	614274	9.47	385900	12.72	410116	15.29	241461	6.18
GP20162-LS1	512698	8.60	649323	9.47	416202	12.72	437447	15.29	255952	6.19

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Check Std: MSK2931-CC2920 **Injection Date:** 03/01/16
Lab File ID: K95291.D **Injection Time:** 12:54
Instrument ID: GCMSK **Method:** SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	111961	8.75	155252	9.60	89273	12.85	92159	15.41	64928	6.42
Upper Limit ^a	223922	9.25	310504	10.10	178546	13.35	184318	15.91	129856	6.92
Lower Limit ^b	55981	8.25	77626	9.10	44637	12.35	46080	14.91	32464	5.92

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSK2931-BS	111961	8.75	155252	9.60	89273	12.85	92159	15.41	64928	6.42
MSK2931-BSD	103756	8.75	145363	9.60	83285	12.85	85311	15.41	62064	6.42
MSK2931-MB	96569	8.76	133302	9.60	71595	12.86	82396	15.41	56281	6.38
ZZZZZZ	110546	8.75	153869	9.60	80747	12.86	92971	15.41	64688	6.47
ZZZZZZ	95602	8.75	132777	9.59	70738	12.85	80897	15.41	60530	6.47
ZZZZZZ	99401	8.75	138415	9.60	74326	12.86	84685	15.41	56500	6.38
MC44516-36	93124	8.75	127925	9.60	67174	12.86	78609	15.41	55395	6.41
MC44517-4	104468	8.75	143990	9.60	76930	12.86	89017	15.41	59686	6.41
MC44517-5	86875	8.75	119652	9.60	64157	12.86	74653	15.41	52234	6.41
MC44517-7	101086	8.75	138547	9.60	73074	12.86	84291	15.41	60348	6.41
MC44517-8	96084	8.75	134017	9.60	69791	12.86	79860	15.41	55647	6.42
MC44517-10	107408	8.75	149593	9.60	81370	12.86	94439	15.41	54722	6.42
MC44517-12	92116	8.75	128134	9.60	68209	12.86	78365	15.41	51766	6.41
MC44517-15	99492	8.75	138859	9.60	74860	12.86	86400	15.41	54886	6.41
MC44517-16	89888	8.75	125324	9.60	66803	12.86	75055	15.41	51203	6.41
MC44517-17	94276	8.75	130920	9.60	70228	12.86	81547	15.41	52044	6.37
MC44517-18	86315	8.75	117693	9.60	64015	12.86	71922	15.41	49939	6.41
MC44517-19	96812	8.75	135948	9.60	72192	12.86	84349	15.41	57020	6.41
ZZZZZZ	89975	8.75	125534	9.60	67157	12.86	75422	15.41	54168	6.41
ZZZZZZ	101417	8.75	137910	9.60	75670	12.86	89777	15.41	61512	6.41
ZZZZZZ	89853	8.75	121268	9.60	66007	12.86	75681	15.41	52027	6.40
ZZZZZZ	101141	8.75	138812	9.60	76492	12.86	87046	15.41	60290	6.41
MC44516-36MS	98649	8.75	137756	9.60	82118	12.85	83706	15.41	55466	6.41
MC44516-36MSD	108770	8.75	150224	9.60	89553	12.85	93874	15.41	63027	6.41

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Check Std:	MSN3656-CC3649	Injection Date:	02/26/16
Lab File ID:	N99998.D	Injection Time:	09:34
Instrument ID:	GCMSN	Method:	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	346972	9.13	525193	9.99	301079	13.22	309783	15.77	72022	6.75
Upper Limit ^a	693944	9.63	1050386	10.49	602158	13.72	619566	16.27	144044	7.25
Lower Limit ^b	173486	8.63	262597	9.49	150540	12.72	154892	15.27	36011	6.25

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSN3656-BS	346972	9.13	525193	9.99	301079	13.22	309783	15.77	72022	6.75
MSN3656-BSD	358603	9.13	544009	9.99	307587	13.22	319302	15.77	92732	6.75
MSN3656-MB	344635	9.13	533768	9.99	295997	13.22	311131	15.77	91876	6.76
ZZZZZZ	345354	9.13	529736	9.99	293348	13.22	297958	15.77	76118	6.76
ZZZZZZ	328458	9.13	512761	9.99	286166	13.22	300737	15.77	73199	6.76
ZZZZZZ	328769	9.13	509267	9.99	279637	13.22	298329	15.77	56861	6.76
ZZZZZZ	329455	9.13	502955	9.99	279447	13.22	296189	15.77	88677	6.76
ZZZZZZ	326875	9.13	503732	9.99	281160	13.22	292386	15.77	61492	6.76
ZZZZZZ	324895	9.13	494679	9.99	278939	13.22	289142	15.77	70767	6.76
MC44516-11	341358	9.13	522852	9.99	290148	13.22	297786	15.77	77033	6.76
ZZZZZZ	333054	9.13	507701	9.99	283051	13.22	289108	15.77	71156	6.76
ZZZZZZ	322583	9.13	500528	9.99	278073	13.22	291255	15.77	81927	6.76
ZZZZZZ	315337	9.13	483288	9.99	277931	13.22	287247	15.77	81186	6.76
ZZZZZZ	321697	9.13	497674	9.99	276547	13.22	295386	15.77	78329	6.75
MC44517-1	316352	9.13	493131	9.99	270291	13.22	291940	15.77	85790	6.76
MC44517-2	317243	9.13	492860	9.99	273800	13.22	288809	15.77	60799	6.76
MC44517-3	314187	9.13	486578	9.99	271269	13.22	283822	15.77	82705	6.76
MC44516-11MS	336356	9.13	516570	9.99	294347	13.22	308027	15.77	90968	6.75
MC44516-11MSD	367815	9.13	577413	9.99	324860	13.22	323698	15.77	99221	6.75

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Check Std:	MSV1665-CC1661	Injection Date:	03/02/16
Lab File ID:	V45682.D	Injection Time:	03:14
Instrument ID:	GCMSV	Method:	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	124053	8.97	201729	9.87	97176	13.12	95904	15.72	58497	6.91
Upper Limit ^a	248106	9.47	403458	10.37	194352	13.62	191808	16.22	116994	7.41
Lower Limit ^b	62027	8.47	100865	9.37	48588	12.62	47952	15.22	29249	6.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV1665-BS	124053	8.97	201729	9.87	97176	13.12	95904	15.72	58497	6.91
MSV1665-BSD	134481	8.98	225732	9.87	105599	13.12	105428	15.73	61964	6.92
MSV1665-MB	126062	8.98	211850	9.88	88428	13.12	80656	15.73	52368	6.91
ZZZZZZ	126555	8.98	215736	9.88	98596	13.12	92594	15.73	91591	6.91
ZZZZZZ	116665	8.98	196309	9.88	93498	13.12	91944	15.73	90031	6.91
ZZZZZZ	117657	8.98	188966	9.88	87769	13.12	84565	15.73	90013	6.91
MC44517-6	102150	8.98	170162	9.88	57414	13.12	34553 ^c	15.73	104119	6.91
MC44517-9	102332	8.98	161275	9.88	59791	13.12	34700 ^c	15.73	86719	6.91
MC44517-11	113054	8.98	191135	9.88	69965	13.12	42926 ^d	15.73	118154 ^e	6.92
MC44517-13	121646	8.98	203143	9.87	89854	13.12	83645	15.73	109213	6.91
MC44517-14	95699	8.98	163061	9.87	61964	13.12	35411 ^c	15.73	116908	6.91
MC44517-11MS	111066	8.98	187172	9.87	73000	13.12	48706	15.73	103395	6.92
MC44517-11MSD	118375	8.98	202976	9.87	76025	13.12	52163	15.73	115727	6.92
ZZZZZZ	112640	8.97	188082	9.87	88198	13.12	83981	15.73	94502	6.91
ZZZZZZ	128170	8.97	221163	9.87	92938	13.12	86717	15.73	97685	6.91
ZZZZZZ	106882	8.97	172612	9.87	82945	13.12	82170	15.73	102141	6.91

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.
(d) Outside control limits due to possible matrix interference. Confirmed by MS/MSD.
(e) Outside control limits. Target analytes not associated with this internal standard.

Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Check Std: MSV1666-CC1661
Lab File ID: V45707.D
Instrument ID: GCMSV
Injection Date: 03/02/16
Injection Time: 15:25
Method: SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	127167	8.97	211433	9.87	94051	13.11	90444	15.72	51406	6.91
Upper Limit ^a	254334	9.47	422866	10.37	188102	13.61	180888	16.22	102812	7.41
Lower Limit ^b	63584	8.47	105717	9.37	47026	12.61	45222	15.22	25703	6.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
MSV1666-BS	126292	8.97	221781	9.87	91451	13.11	84338	15.72	51123	6.91
MSV1666-BSD	129955	8.97	223497	9.87	100784	13.11	90049	15.72	55179	6.91
MSV1666-MB	118949	8.97	202604	9.86	88973	13.11	82509	15.72	55764	6.90
ZZZZZZ	74583	8.97	128876	9.86	52604	13.11	46523	15.72	38278	6.89
ZZZZZZ	114877	8.96	205530	9.86	92149	13.11	84671	15.72	80486	6.89
ZZZZZZ	120769	8.96	213624	9.86	87622	13.11	77703	15.72	75444	6.89
ZZZZZZ	125930	8.96	228131	9.86	91711	13.10	81449	15.71	87011	6.89
MC44517-6	83683	8.96	139110	9.86	59586	13.10	41601 ^c	15.71	82398	6.90
MC44517-9	80748	8.96	135255	9.86	42381 ^c	13.10	19675 ^c	15.71	76800	6.90
MC44517-13	103926	8.96	179212	9.86	85839	13.10	80991	15.71	99868	6.90
MC44517-14	93641	8.96	158549	9.86	52806	13.10	24407 ^c	15.71	103438 ^d	6.90
ZZZZZZ	116869	8.96	211597	9.86	84308	13.10	72225	15.71	81234	6.89
ZZZZZZ	107614	8.95	186062	9.85	84636	13.10	75621	15.71	82464	6.89
ZZZZZZ	114007	8.96	200816	9.85	83458	13.10	75042	15.71	86116	6.89
ZZZZZZ	102324	8.95	174430	9.85	79763	13.10	73741	15.71	73746	6.88
ZZZZZZ	104089	8.95	176410	9.85	76927	13.10	70150	15.71	78697	6.89
ZZZZZZ	109842	8.95	189688	9.85	78862	13.10	71628	15.71	80279	6.89
ZZZZZZ	97600	8.95	167287	9.85	77681	13.10	71849	15.71	79298	6.88
ZZZZZZ	72544	8.95	123690	9.85	51993	13.10	46121	15.71	63475	6.88
ZZZZZZ	101623	8.95	178732	9.85	79668	13.10	73128	15.71	72885	6.88
ZZZZZZ	109154	8.95	199511	9.85	84566	13.10	73479	15.71	82478	6.88
MC44517-13MS	126739	8.95	226378	9.85	99390	13.10	92096	15.71	55128	6.89
MC44517-13MSD	115898	8.95	197735	9.85	90314	13.10	83690	15.71	54985	6.89

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4
IS 5 = Tert Butyl Alcohol-D9

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Outside control limits due to possible matrix interference. Confirmed by reanalysis.
(d) Outside control limits. Target analytes not associated with this internal standard.

Volatile Surrogate Recovery Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Method: SW846 8260C	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44517-1	N100017.D	106	101	97
MC44517-2	N100018.D	105	100	98
MC44517-3	N100019.D	105	101	98
MC44517-17A	H78917.D	96	95	107
GP20162-LB1	H78909.D	96	96	102
GP20162-LS1	H78924.D	100	96	98
MC44516-11MS	N100020.D	104	102	97
MC44516-11MSD	N100021.D	103	97	97
MSH2628-BS	H78904.D	98	96	99
MSH2628-BSD	H78905.D	99	95	99
MSH2628-MB	H78907.D	95	95	105
MSN3656-BS	N99998.D	101	101	96
MSN3656-BSD	N99999.D	101	100	94
MSN3656-MB	N100001.D	103	100	97

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	74-135%
S2 = Toluene-D8	83-116%
S3 = 4-Bromofluorobenzene	76-124%

Volatile Surrogate Recovery Summary

Page 1 of 2

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Method: SW846 8260C

Matrix: SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC44517-4	K95299.D	107	98	94
MC44517-5	K95300.D	112	98	93
MC44517-6	V45716.D	118	98	127
MC44517-6	V45693.D	116	88	138* a
MC44517-7	K95301.D	108	96	96
MC44517-8	K95302.D	113	97	95
MC44517-9	V45717.D	111	89	152* b
MC44517-9	V45694.D	112	95	138* b
MC44517-10	K95303.D	113	98	94
MC44517-11	V45695.D	113	92	135
MC44517-12	K95304.D	112	99	95
MC44517-13	V45718.D	119	102	105
MC44517-13	V45696.D	111	97	105
MC44517-14	V45719.D	117	90	153* b
MC44517-14	V45697.D	116	94	142* b
MC44517-15	K95305.D	113	97	93
MC44517-16	K95306.D	112	97	95
MC44517-17	K95307.D	114	98	93
MC44517-18	K95308.D	113	100	95
MC44517-19	K95309.D	113	99	94
MC44516-36MS	K95314.D	107	102	100
MC44516-36MSD	K95315.D	107	103	99
MC44517-11MS	V45698.D	113	95	130
MC44517-11MSD	V45699.D	105	93	127
MC44517-13MS	V45730.D	105	101	102
MC44517-13MSD	V45731.D	107	103	101
MSK2931-BS	K95291.D	106	101	100
MSK2931-BSD	K95292.D	106	101	99
MSK2931-MB	K95294.D	115	98	93
MSV1665-BS	V45682.D	104	106	102
MSV1665-BSD	V45683.D	103	103	101
MSV1665-MB	V45686.D	103	98	104
MSV1666-BS	V45708.D	101	98	102
MSV1666-BSD	V45709.D	103	103	103
MSV1666-MB	V45711.D	103	99	102

**Surrogate
Compounds**

**Recovery
Limits**

S1 = Dibromofluoromethane

65-141%

Volatile Surrogate Recovery Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Method: SW846 8260C	Matrix: SO
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Samples and QC shown here apply to the above method

Surrogate Compounds	Recovery Limits
S2 = Toluene-D8	65-129%
S3 = 4-Bromofluorobenzene	63-137%

- (a) Outside control limits. Sample results confirmed by reanalysis.
- (b) Outside control limits due to possible matrix interference. Confirmed by reanalysis.

6.8.2
 6

Initial Calibration Summary

Page 1 of 5

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICC2619
Lab FileID: H78632.D

Response Factor Report MSH

Method : C:\msdchem\1\METHODS\H160219W.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Sun Feb 21 11:09:26 2016
Response via : Initial Calibration

Calibration Files

0.5 =H78626.D 1 =H78627.D 2 =H78628.D 5 =H78629.D
10 =H78630.D 20 =H78631.D 50 =H78632.D 100 =H78633.D
200 =H78634.D 400 =H78635.D = =

Compound	0.5	1	2	5	10	20	50	100	200	400	Avg	%RSD
1) I Tert Butyl Alcohol-d9 -----ISTD-----												
2) tertiary butyl alcohol												
	1.214	1.075	0.851	0.927	0.893	0.834	0.891	0.969	0.957		13.44	
3) Ethanol												
	0.061	0.060	0.060	0.069	0.064	0.069	0.066	0.066	0.064		6.43	
4) I pentafluorobenzene -----ISTD-----												
5) dichlorodifluoromethane												
	0.878	0.599	0.628	0.631	0.615	0.641	0.650	0.614	0.657		13.80	
6) chloromethane												
	0.604	0.426	0.367	0.346	0.330	0.305	0.288	0.231	0.362		31.35	
---- Quadratic regression ---- Coefficient = 0.9999												
Response Ratio = 0.00675 + 0.33613 *A + -0.01327 *A^2												
7) vinyl chloride												
	0.607	0.570	0.392	0.435	0.432	0.425	0.443	0.463	0.461	0.470	15.14	
8) bromomethane												
	0.434	0.347	0.353	0.349	0.336	0.345	0.362	0.331	0.357		9.12	
9) chloroethane												
	0.330	0.226	0.247	0.243	0.231	0.246	0.256	0.248	0.253		12.77	
10) acetonitrile												
	0.056	0.056	0.052	0.046	0.056	0.057	0.054				7.73	
11) trichlorofluoromethane												
	0.994	1.105	0.782	0.902	0.893	0.873	0.910	0.934	0.866	0.918	9.82	
12) freon-113												
	0.574	0.450	0.513	0.487	0.414	0.478	0.458	0.482			10.62	
13) acrolein												
	0.015	0.017	0.022	0.022	0.023	0.022	0.020#				17.26	
14) 1,1-dichloroethene												
	0.897	0.560	0.608	0.439	0.514	0.460	0.404	0.452	0.435	0.530	28.77	
---- Linear regression ---- Coefficient = 0.9978												
Response Ratio = 0.00894 + 0.43611 *A												
15) acetone												
	0.052	0.037	0.041	0.047	0.048	0.054	0.050	0.047#			13.13	
16) ethyl ether												
	0.403	0.280	0.344	0.339	0.312	0.337	0.331	0.335			11.03	
17) methyl acetate												
	0.330	0.266	0.390	0.353	0.324	0.350	0.339	0.336			11.19	
18) methylene chloride												
	0.684	0.644	0.497	0.567	0.546	0.493	0.530	0.505	0.558		12.66	
19) methyl tert butyl ether												
	2.301	2.115	2.165	1.679	1.924	1.885	1.740	1.859	1.768	1.937	10.94	
20) acrylonitrile												

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICC2619
Lab FileID: H78632.D

		0.114	0.129	0.148	0.143	0.141	0.154	0.149	0.140	9.77
21)	allyl chloride									
		0.607	0.439	0.510	0.516	0.442	0.487	0.472	0.496	11.57
22)	trans-1,2-dichloroethene									
		0.865	0.614	0.586	0.570	0.567	0.496	0.434	0.477	0.460
	---- Linear regression ----	Coefficient = 0.9977								
	Response Ratio =	0.00950 + 0.46373 *A								
23)	iodomethane									
		1.030	0.804	0.945	0.911	0.828	0.899	0.864	0.897	8.48
24)	carbon disulfide									
		1.787	1.369	1.639	1.537	1.377	1.541	1.457	1.530	9.72
25)	propionitrile									
		0.049	0.063	0.054	0.058	0.056	0.063	0.061	0.058	8.71
26)	vinyl acetate									
		0.929	0.653	0.788	0.848	0.772	0.835	0.841	0.809	10.57
27)	chloroprene									
		0.824	0.618	0.717	0.665	0.597	0.671	0.648	0.677	11.14
28)	di-isopropyl ether									
		1.264	1.236	0.945	1.123	1.096	1.026	1.092	1.058	1.105
29)	methacrylonitrile									
		0.280	0.236	0.268	0.265	0.256	0.273	0.271	0.264	5.54
30)	2-butanone									
		0.099	0.074	0.078	0.078	0.075	0.081	0.080	0.081#	10.24
31)	1,1-dichloroethane									
		1.041	0.966	1.025	0.789	0.927	0.883	0.803	0.876	0.844
32)	tert-butyl ethyl ether									
		1.646	1.788	1.333	1.563	1.541	1.430	1.539	1.476	1.540
33)	Hexane									
		0.735	0.533	0.644	0.593	0.523	0.585	0.563	0.597	12.29
34)	isobutyl alcohol									
									0.000#	-1.00
35)	2,2-dichloropropane									
		1.035	0.805	0.902	0.829	0.737	0.802	0.747	0.837	12.30
36)	cis-1,2-dichloroethene									
		1.061	0.875	0.671	0.492	0.569	0.557	0.499	0.528	0.512
	---- Linear regression ----	Coefficient = 0.9989								
	Response Ratio =	0.01201 + 0.51444 *A								
37)	ethyl acetate									
									0.000#	-1.00
38)	bromochloromethane									
		0.317	0.235	0.282	0.276	0.254	0.275	0.266	0.272	9.33
39)	chloroform									
		1.619	1.149	1.271	0.970	1.128	1.072	0.978	1.047	1.001
40)	dibromofluoromethane (s)									
		0.464	0.481	0.472	0.476	0.475	0.474	0.482	0.472	0.482
41)	1,1,1-trichloroethane									
		1.177	1.056	1.073	0.791	0.950	0.903	0.804	0.904	0.870
42)	I 1,4-difluorobenzene	-----ISTD-----								
43)	cyclohexane									
		0.522	0.383	0.435	0.413	0.356	0.418	0.395	0.418	12.66
44)	carbon tetrachloride									
		0.686	0.639	0.685	0.545	0.641	0.592	0.537	0.601	0.573
45)	1,1-dichloropropene									
		0.669	0.506	0.601	0.540	0.492	0.550	0.533	0.556	10.91
46)	benzene									
		1.406	1.683	1.519	1.714	1.279	1.498	1.405	1.311	1.391
47)	tetrahydrofuran									
		1.323	1.453	10.34						

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICC2619
Lab FileID: H78632.D

		0.101	0.073	0.103	0.089	0.083	0.089	0.086	0.089	11.38
48)	1,2-dichloroethane									
		0.754	0.636	0.763	0.534	0.629	0.602	0.570	0.598	12.63
49)	tert-amyl methyl ether									
		1.262	1.380	1.049	1.300	1.233	1.155	1.225	1.157	8.28
50)	heptane									
		0.319	0.227	0.277	0.238	0.213	0.238	0.230	0.249	14.72
51)	trichloroethene									
		0.383	0.531	0.453	0.461	0.376	0.435	0.390	0.384	13.04
52)	1,2-dichloropropane									
		0.376	0.370	0.290	0.334	0.319	0.302	0.321	0.313	9.40
53)	dibromomethane									
		0.291	0.304	0.232	0.266	0.259	0.249	0.263	0.255	8.67
54)	bromodichloromethane									
		0.714	0.656	0.644	0.497	0.587	0.588	0.557	0.584	10.62
55)	methylcyclohexane									
		0.717	0.511	0.638	0.557	0.481	0.561	0.534	0.572	14.15
56)	2-chloroethyl vinyl ether									
		0.171	0.203	0.200	0.206	0.228	0.233	0.230	0.210	10.46
57)	methyl methacrylate									
		0.306	0.258	0.291	0.287	0.275	0.292	0.292	0.286	5.29
58)	1,4-dioxane									
		0.005	0.004	0.005	0.005	0.005	0.005	0.005	0.005#	6.51
59)	cis-1,3-dichloropropene									
		0.661	0.669	0.650	0.720	0.564	0.661	0.647	0.612	6.27
60)	toluene-d8 (s)									
		1.246	1.231	1.252	1.246	1.256	1.244	1.232	1.248	0.66
61)	4-methyl-2-pentanone									
		0.309	0.258	0.297	0.285	0.278	0.304	0.310	0.292	6.56
62)	toluene									
		1.073	0.947	1.015	0.791	0.921	0.855	0.800	0.855	10.98
63)	trans-1,3-dichloropropene									
		0.644	0.650	0.636	0.693	0.565	0.649	0.642	0.617	5.02
64)	1,1,2-trichloroethane									
		0.394	0.305	0.319	0.257	0.305	0.295	0.280	0.294	12.51
65)	ethyl methacrylate									
		0.564	0.466	0.523	0.528	0.513	0.544	0.539	0.525	5.89
66)	I chlorobenzene-d5	-----ISTD-----								
67)	tetrachloroethene									
		0.571	0.737	0.702	0.741	0.572	0.680	0.618	0.590	9.85
68)	1,3-dichloropropane									
		1.017	0.834	0.977	0.905	0.881	0.945	0.900	0.923	6.66
69)	dibromochloromethane									
		0.699	0.637	0.668	0.536	0.619	0.626	0.625	0.674	7.32
70)	1,2-dibromoethane									
		0.674	0.570	0.613	0.492	0.585	0.546	0.548	0.587	8.69
71)	2-hexanone									
		0.295	0.259	0.294	0.303	0.335	0.334	0.303		9.34
72)	chlorobenzene									
		1.759	1.639	1.762	1.363	1.597	1.462	1.420	1.541	9.23
73)	1,1,1,2-tetrachloroethane									
		0.692	0.624	0.660	0.512	0.615	0.575	0.568	0.614	8.74
74)	ethylbenzene									
		3.171	2.744	3.127	2.380	2.811	2.592	2.498	2.672	10.28
75)	m,p-xylene									
		0.951	1.170	1.029	1.137	0.867	1.030	0.966	0.926	9.21
76)	o-xylene									
		0.944	1.221	1.123	1.160	0.908	1.070	0.974	1.025	9.94
77)	styrene									

Initial Calibration Summary

Page 4 of 5

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICC2619
Lab FileID: H78632.D

		1.909	1.505	1.779	1.666	1.559	1.686	1.602	1.672	8.22			
78)	bromoform												
		0.463	0.434	0.501	0.421	0.495	0.512	0.526	0.581	0.577	0.501	11.21	
79)	trans-1,4-dichloro-2-butene												
		0.193	0.156	0.200	0.194	0.201	0.220	0.218	0.198	10.78			
80)	I 1,4-dichlorobenzene-d	-----ISTD-----											
81)	isopropylbenzene												
		2.905	2.206	2.623	2.389	2.153	2.311	2.163	2.393	11.67			
82)	bromofluorobenzene (s)												
		0.900	0.885	0.903	0.895	0.884	0.893	0.877	0.872	0.852	0.856	0.882	1.98
83)	bromobenzene												
		0.820	0.633	0.762	0.711	0.662	0.698	0.678	0.709	8.98			
84)	1,1,2,2-tetrachloroethane												
		0.687	0.900	0.817	0.812	0.642	0.727	0.692	0.654	0.675	0.666	0.727	11.87
85)	1,2,3-trichloropropane												
		0.934	0.773	0.907	0.903	0.873	0.905	0.895	0.884	5.91			
86)	n-propylbenzene												
		3.321	2.521	3.075	2.825	2.571	2.704	2.491	2.787	11.17			
87)	2-chlorotoluene												
		2.154	1.643	1.915	1.745	1.611	1.691	1.608	1.767	11.38			
88)	4-chlorotoluene												
		2.098	1.613	1.976	1.868	1.746	1.808	1.736	1.835	8.85			
89)	1,3,5-trimethylbenzene												
		2.393	2.280	2.562	1.898	2.253	2.082	1.892	2.029	1.923	2.146	11.14	
90)	tert-butylbenzene												
		1.584	1.191	1.427	1.268	1.139	1.247	1.189	1.292	12.25			
91)	1,2,4-trimethylbenzene												
		2.582	2.395	2.588	1.951	2.353	2.183	1.992	2.112	1.996	2.239	11.15	
92)	sec-butylbenzene												
		3.043	2.235	2.770	2.488	2.199	2.388	2.229	2.479	12.87			
93)	1,3-dichlorobenzene												
		1.360	1.233	1.345	1.038	1.288	1.226	1.154	1.234	1.190	1.230	8.02	
94)	p-isopropyltoluene												
		2.642	1.993	2.446	2.192	1.958	2.162	2.032	2.203	11.53			
95)	1,4-dichlorobenzene												
		1.732	1.415	1.649	1.261	1.473	1.345	1.245	1.308	1.250	1.409	12.65	
96)	1,2-dichlorobenzene												
		1.635	1.403	1.492	1.188	1.354	1.268	1.197	1.253	1.195	1.332	11.60	
97)	n-butylbenzene												
		2.458	1.768	2.240	1.982	1.757	1.925	1.815	1.992	13.28			
98)	1,2-dibromo-3-chloropropane												
		0.263	0.189	0.197	0.187	0.178	0.188	0.186	0.198	14.71			
99)	1,3,5-trichlorobenzene												
		1.363	1.019	1.264	1.114	1.013	1.112	1.074	1.137	11.45			
100)	1,2,4-trichlorobenzene												
		1.243	0.886	1.119	1.027	0.945	1.016	0.971	1.030	11.56			
101)	hexachlorobutadiene												
		0.598	0.428	0.544	0.466	0.406	0.440	0.431	0.473	14.96			
102)	naphthalene												
		2.547	2.068	2.429	2.348	2.168	2.229	2.103	2.270	7.81			
103)	1,2,3-trichlorobenzene												
		1.151	0.870	1.010	0.931	0.832	0.882	0.859	0.934	12.02			
104)	2-Methylnaphthalene												
		0.983	0.820	1.084	1.110	0.974	1.015	0.982	0.995	9.41			
105)	1-Methylnaphthalene												
										0.000#	-1.00		

(#) = Out of Range ### Number of calibration levels exceeded format ###

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICC2619
Lab FileID: H78632.D

H160219W.M Sun Feb 21 11:25:32 2016

Initial Calibration Verification

Page 1 of 3

Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2619-ICV2619

Lab FileID: H78638.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\H160219\H78638.D Vial: 23
Acq On : 19 Feb 2016 11:21 pm Operator: kaylap
Sample : icv2619-50 Inst : MSH
Misc : ms36113,msh2619,,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\H160219W.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Sun Feb 21 11:09:26 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1 I	Tert Butyl Alcohol-d9	500.000	500.000	0.0	101	0.00	6.20
2 p	tertiary butyl alcohol	500.000	469.605	6.1	101	0.00	6.28
3 p	Ethanol	5000.000	4948.698	1.0	92	0.00	5.13
4 I	pentafluorobenzene	50.000	50.000	0.0	102	0.00	8.60
5 p	dichlorodifluoromethane	50.000	49.570	0.9	108	0.00	3.98
6 P	chloromethane	50.000	55.933	-11.9	113	0.00	4.20
7 p	vinyl chloride	50.000	51.955	-3.9	117	0.00	4.45
8 p	bromomethane	50.000	56.108	-12.2	122	0.00	4.92
9 p	chloroethane	50.000	57.333	-14.7	129	-0.01	5.05
10 p	acetonitrile	50.000	50.053	-0.1	106	-0.01	5.59
11 p	trichlorofluoromethane	50.000	53.403	-6.8	115	0.00	5.71
12 p	freon-113	50.000	46.615	6.8	94	0.00	6.47
13 p	acrolein	250.000	783.899	-213.6#	289	0.00	5.68
14 p	1,1-dichloroethene	50.000	49.745	0.5	98	0.00	6.27
15 p	acetone	50.000	60.165	-20.3	123	0.00	5.80
16 p	ethyl ether	50.000	47.332	5.3	96	0.00	5.90
17 p	methyl acetate	50.000	63.781	-27.6	124	0.00	6.42
18 p	methylene chloride	50.000	48.361	3.3	101	0.00	6.41
19 p	methyl tert butyl ether	50.000	48.173	3.7	101	0.00	7.19
20 p	acrylonitrile	50.000	50.810	-1.6	101	0.00	6.30
21 p	allyl chloride	50.000	51.584	-3.2	101	0.00	6.50
22 p	trans-1,2-dichloroethene	50.000	46.705	6.6	91	0.00	7.09
23 p	iodomethane	50.000	47.662	4.7	96	0.00	6.32
24 p	carbon disulfide	50.000	42.470	15.1	86	0.00	6.69
25 p	propionitrile	50.000	50.876	-1.8	103	0.00	7.34
26 p	vinyl acetate	50.000	48.912	2.2	95	0.00	7.44
27 p	chloroprene	50.000	46.623	6.8	97	0.00	7.70
28 p	di-isopropyl ether	50.000	49.574	0.9	102	0.00	7.75
29 p	methacrylonitrile	50.000	50.808	-1.6	103	0.00	7.85
30 p	2-butanone	50.000	50.144	-0.3	106	0.00	7.75
31 P	1,1-dichloroethane	50.000	47.288	5.4	99	0.00	7.34
32 p	tert-butyl ethyl ether	50.000	48.282	3.4	99	0.00	8.15
33 p	Hexane	50.000	46.911	6.2	96	0.00	7.73
34 p	isobutyl alcohol	250.000	0.000	100.0#	0	0.00	8.15
35 p	2,2-dichloropropane	50.000	45.644	8.7	94	0.00	8.20
36 p	cis-1,2-dichloroethene	50.000	54.341	-8.7	105	0.00	7.91
37 p	ethyl acetate	50.000	0.000	100.0#	0	0.00	8.15

Initial Calibration Verification

Page 2 of 3

Job Number: MC44517

Sample: MSH2619-ICV2619

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: H78638.D

Project: River Forest, 7613 Lake Street, River Forest, IL

38	p	bromochloromethane	50.000	50.409	-0.8	101	0.00	8.07
39	p	chloroform	50.000	45.861	8.3	99	0.00	8.11
40	S	dibromofluoromethane (s)	50.000	49.727	0.5	100	0.00	8.23
41	p	1,1,1-trichloroethane	50.000	47.102	5.8	101	0.00	8.87
42	I	1,4-difluorobenzene	50.000	50.000	0.0	101	0.00	9.47
43	p	cyclohexane	50.000	46.386	7.2	95	0.00	9.15
44	p	carbon tetrachloride	50.000	48.462	3.1	101	0.00	9.23
45	p	1,1-dichloropropene	50.000	48.236	3.5	100	0.00	9.04
46	p	benzene	50.000	48.749	2.5	102	0.00	9.26
47	p	tetrahydrofuran	50.000	45.685	8.6	92	0.00	8.44
48	p	1,2-dichloroethane	50.000	47.067	5.9	99	0.00	8.76
49	p	tert-amyl methyl ether	50.000	51.706	-3.4	103	0.00	9.39
50	p	heptane	50.000	50.454	-0.9	106	0.00	9.75
51	p	trichloroethene	50.000	46.959	6.1	101	0.00	9.89
52	p	1,2-dichloropropane	50.000	49.179	1.6	102	0.00	9.85
53	p	dibromomethane	50.000	48.594	2.8	100	0.00	9.82
54	p	bromodichloromethane	50.000	47.848	4.3	98	0.00	9.94
55	p	methylcyclohexane	50.000	47.480	5.0	98	0.00	10.40
56	p	2-chloroethyl vinyl ether	50.000	55.135	-10.3	113	0.00	10.32
57	p	methyl methacrylate	50.000	51.166	-2.3	103	0.00	10.04
58	p	1,4-dioxane	250.000	255.545	-2.2	101	0.00	10.04
59	p	cis-1,3-dichloropropene	50.000	47.903	4.2	97	0.00	10.56
60	S	toluene-d8 (s)	50.000	49.657	0.7	101	0.00	11.26
61	p	4-methyl-2-pentanone	50.000	50.304	-0.6	104	0.00	10.65
62	p	toluene	50.000	48.008	4.0	102	0.00	11.34
63	p	trans-1,3-dichloropropene	50.000	45.497	9.0	91	0.00	10.98
64	p	1,1,2-trichloroethane	50.000	48.523	3.0	101	0.00	11.15
65	p	ethyl methacrylate	50.000	50.612	-1.2	102	0.00	11.36
66	I	chlorobenzene-d5	50.000	50.000	0.0	101	0.00	12.72
67	p	tetrachloroethene	50.000	47.209	5.6	100	0.00	12.08
68	p	1,3-dichloropropane	50.000	50.337	-0.7	104	0.00	11.38
69	p	dibromochloromethane	50.000	47.340	5.3	97	0.00	11.67
70	p	1,2-dibromoethane	50.000	48.198	3.6	103	0.00	11.92
71	p	2-hexanone	50.000	50.771	-1.5	106	0.00	11.51
72	P	chlorobenzene	50.000	47.088	5.8	101	0.00	12.76
73	p	1,1,1,2-tetrachloroethane	50.000	48.135	3.7	102	0.00	12.68
74	p	ethylbenzene	50.000	47.964	4.1	102	0.00	12.94
75	p	m,p-xylene	100.000	95.039	5.0	100	0.00	13.12
76	p	o-xylene	50.000	46.091	7.8	99	0.00	13.53
77	p	styrene	50.000	45.419	9.2	92	0.00	13.46
78	P	bromoform	50.000	50.167	-0.3	99	0.00	13.28
79	p	trans-1,4-dichloro-2-bute	50.000	47.132	5.7	97	0.00	13.69
80	I	1,4-dichlorobenzene-d4	50.000	50.000	0.0	101	0.00	15.29
81	p	isopropylbenzene	50.000	49.975	0.0	101	0.00	13.90
82	S	bromofluorobenzene (s)	50.000	49.266	1.5	100	0.00	13.95
83	p	bromobenzene	50.000	50.541	-1.1	102	0.00	14.18
84	P	1,1,2,2-tetrachloroethane	50.000	48.465	3.1	103	0.00	13.54
85	p	1,2,3-trichloropropane	50.000	50.192	-0.4	100	0.00	13.69
86	p	n-propylbenzene	50.000	49.131	1.7	98	0.00	14.35
87	p	2-chlorotoluene	50.000	50.052	-0.1	103	0.00	14.46
88	p	4-chlorotoluene	50.000	51.159	-2.3	102	0.00	14.54
89	p	1,3,5-trimethylbenzene	50.000	50.466	-0.9	105	0.00	14.63
90	p	tert-butylbenzene	50.000	49.708	0.6	103	0.00	14.93
91	p	1,2,4-trimethylbenzene	50.000	48.246	3.5	100	0.00	15.03
92	p	sec-butylbenzene	50.000	50.585	-1.2	102	0.00	15.15
93	p	1,3-dichlorobenzene	50.000	49.985	0.0	102	0.00	15.25
94	p	p-isopropyltoluene	50.000	50.789	-1.6	103	0.00	15.33

6.9.2
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Initial Calibration Verification

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Job Number: MC44517

Sample: MSH2619-ICV2619

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: H78638.D

Project: River Forest, 7613 Lake Street, River Forest, IL

95 p	1,4-dichlorobenzene	50.000	48.214	3.6	102	0.00	15.32
96 p	1,2-dichlorobenzene	50.000	48.468	3.1	103	0.00	15.69
97 p	n-butylbenzene	50.000	50.647	-1.3	103	0.00	15.75
98 p	1,2-dibromo-3-chloropropa	50.000	45.571	8.9	98	0.00	16.17
99 p	1,3,5-trichlorobenzene	50.000	47.559	4.9	98	0.00	16.99
100 p	1,2,4-trichlorobenzene	50.000	50.142	-0.3	102	0.00	17.54
101 p	hexachlorobutadiene	50.000	52.953	-5.9	109	0.00	17.84
102 p	naphthalene	50.000	49.266	1.5	96	0.00	17.81
103 p	1,2,3-trichlorobenzene	50.000	50.731	-1.5	103	0.00	18.03
104 p	2-Methylnaphthalene	25.000	26.932	-7.7	98	0.00	19.27
105 p	1-Methylnaphthalene	25.000	0.000	100.0#	0	0.00	19.27

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

H78632.D H160219W.M

Sun Feb 21 11:25:34 2016

Continuing Calibration Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2628-CC2619
Lab FileID: H78904.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\H160301\H78904.D Vial: 4
Acq On : 1 Mar 2016 1:16 pm Operator: kaylap
Sample : cc2619-50 Inst : MSH
Misc : ms36183,msh2628,,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\H160219W.M (RTE Integrator)
Title : SW-846 Method 8260, ethanol=500, acetonitrile=10, Mon Feb 22 09:20:38 2016
Last Update : Mon Feb 22 09:20:38 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound		AvgRF	CCRF	%Dev Area%		Dev(min)R.T.	
1 I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	69	0.00	6.19
2 p	tertiary butyl alcohol	0.957	0.943	1.5	73	0.00	6.28
3 p	Ethanol	0.064	0.049#	23.4#	49#	0.00	5.12
4 I	pentafluorobenzene	1.000	1.000	0.0	91	0.00	8.60
5 p	dichlorodifluoromethane	0.657	0.512	22.1#	76	0.00	3.98
----- Amount Calc. %Drift -----							
6 P	chloromethane	50.000	45.424	9.2	83	0.00	4.20
----- AvgRF CCRF %Dev -----							
7 p	vinyl chloride	0.470	0.387	17.7	83	0.00	4.45
8 p	bromomethane	0.357	0.316	11.5	85	0.00	4.92
9 p	chloroethane	0.253	0.216	14.6	85	0.00	5.06
10 p	acetonitrile	0.054	0.048#	11.1	84	0.00	5.59
11 p	trichlorofluoromethane	0.918	0.910	0.9	95	0.00	5.71
12 p	freon-113	0.482	0.426	11.6	79	-0.02	6.45
13 p	acrolein	0.020	0.038#	-90.0#	152	0.00	5.68
----- Amount Calc. %Drift -----							
14 p	1,1-dichloroethene	50.000	42.471	15.1	75	0.00	6.27
----- AvgRF CCRF %Dev -----							
15 p	acetone	0.047	0.049#	-4.3	94	0.00	5.79
16 p	ethyl ether	0.335	0.247	26.3#	66	0.00	5.91
17 p	methyl acetate	0.336	0.296	11.9	76	0.00	6.43
18 p	methylene chloride	0.558	0.455	18.5	76	0.00	6.42
19 p	methyl tert butyl ether	1.937	1.624	16.2	78	0.00	7.19
20 p	acrylonitrile	0.140	0.096	31.4#	61	0.01	6.31
21 p	allyl chloride	0.496	0.384	22.6#	68	0.00	6.50
----- Amount Calc. %Drift -----							
22 p	trans-1,2-dichloroethene	50.000	39.377	21.2#	69	0.00	7.09
----- AvgRF CCRF %Dev -----							
23 p	iodomethane	0.897	0.741	17.4	74	0.00	6.32
24 p	carbon disulfide	1.530	1.084	29.2#	64	0.00	6.69
25 p	propionitrile	0.058	0.038#	34.5#	60	0.02	7.35
26 p	vinyl acetate	0.809	0.607	25.0#	65	0.00	7.44
27 p	chloroprene	0.677	0.556	17.9	76	0.00	7.70
28 p	di-isopropyl ether	1.105	0.804	27.2#	67	0.00	7.75
29 p	methacrylonitrile	0.264	0.185	29.9#	63	0.00	7.86

Continuing Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2628-CC2619
Lab FileID: H78904.D

30 p	2-butanone	0.081	0.078#	3.7	91	0.00	7.75
31 p	1,1-dichloroethane	0.906	0.714	21.2#	73	0.00	7.34
32 p	tert-butyl ethyl ether	1.540	1.232	20.0#	73	0.00	8.15
33 p	Hexane	0.597	0.511	14.4	78	0.00	7.72
34 p	isobutyl alcohol	0.000	0.046#	0.0	0#	0.00	8.14
35 p	2,2-dichloropropane	0.837	0.841	-0.5	92	0.00	8.20

		Amount	Calc.	%Drift			
36 p	cis-1,2-dichloroethene	50.000	46.080	7.8	79	0.00	7.91

		AvgRF	CCRF	%Dev			
37 p	ethyl acetate	0.000	0.223	0.0	0#	0.00	8.14
38 p	bromochloromethane	0.272	0.238	12.5	78	0.00	8.07
39 p	chloroform	1.137	0.989	13.0	84	0.00	8.11
40 S	dibromofluoromethane (s)	0.476	0.467	1.9	88	0.00	8.23
41 p	1,1,1-trichloroethane	0.948	0.896	5.5	90	0.00	8.86
42 I	1,4-difluorobenzene	1.000	1.000	0.0	81	0.00	9.47
43 p	cyclohexane	0.418	0.328	21.5#	64	0.00	9.15
44 p	carbon tetrachloride	0.611	0.672	-10.0	92	0.00	9.23
45 p	1,1-dichloropropene	0.556	0.531	4.5	80	0.00	9.04
46 p	benzene	1.453	1.305	10.2	75	0.00	9.26
47 p	tetrahydrofuran	0.089	0.060	32.6#	55	0.02	8.45
48 p	1,2-dichloroethane	0.629	0.621	1.3	84	0.00	8.76
49 p	tert-amyl methyl ether	1.220	1.187	2.7	78	0.00	9.39
50 p	heptane	0.249	0.239	4.0	81	0.00	9.75
51 p	trichloroethene	0.414	0.392	5.3	82	0.00	9.88
52 p	1,2-dichloropropane	0.328	0.281	14.3	71	0.00	9.85
53 p	dibromomethane	0.265	0.256	3.4	80	0.00	9.82
54 p	bromodichloromethane	0.599	0.567	5.3	78	0.00	9.94
55 p	methylcyclohexane	0.572	0.559	2.3	81	0.00	10.40
56 p	2-chloroethyl vinyl ether	0.210	0.183	12.9	72	0.00	10.32
57 p	methyl methacrylate	0.286	0.245	14.3	69	0.00	10.04
58 p	1,4-dioxane	0.005	0.004#	20.0	63	0.00	10.04
59 p	cis-1,3-dichloropropene	0.646	0.591	8.5	74	0.00	10.56
60 S	toluene-d8 (s)	1.245	1.199	3.7	79	0.00	11.26
61 p	4-methyl-2-pentanone	0.292	0.236	19.2	67	0.00	10.66
62 p	toluene	0.898	0.837	6.8	79	0.00	11.34
63 p	trans-1,3-dichloropropene	0.637	0.557	12.6	70	0.00	10.99
64 p	1,1,2-trichloroethane	0.304	0.271	10.9	75	0.00	11.15
65 p	ethyl methacrylate	0.525	0.476	9.3	73	0.00	11.37
66 I	chlorobenzene-d5	1.000	1.000	0.0	76	0.00	12.72
67 p	tetrachloroethene	0.649	0.687	-5.9	85	0.00	12.08
68 p	1,3-dichloropropane	0.923	0.948	-2.7	80	0.00	11.39
69 p	dibromochloromethane	0.638	0.653	-2.4	79	0.00	11.67
70 p	1,2-dibromoethane	0.576	0.563	2.3	78	0.00	11.93
71 p	2-hexanone	0.303	0.206	32.0#	53	0.00	11.52
72 p	chlorobenzene	1.557	1.506	3.3	78	0.00	12.76
73 p	1,1,1,2-tetrachloroethane	0.606	0.637	-5.1	84	0.00	12.68
74 p	ethylbenzene	2.718	2.796	-2.9	82	0.00	12.94
75 p	m,p-xylene	1.005	1.000	0.5	79	0.00	13.12
76 p	o-xylene	1.037	1.016	2.0	79	0.00	13.53
77 p	styrene	1.672	1.618	3.2	74	0.00	13.46
78 p	bromoform	0.501	0.527	-5.2	78	0.00	13.28
79 p	trans-1,4-dichloro-2-bute	0.198	0.180	9.1	71	0.00	13.70
80 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	75	0.00	15.29
81 p	isopropylbenzene	2.393	2.720	-13.7	86	0.00	13.90
82 S	bromofluorobenzene (s)	0.882	0.874	0.9	75	0.00	13.95

Continuing Calibration Summary

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Job Number: MC44517

Account: TTILC Tetra Tech EM, Inc.

Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSH2628-CC2619

Lab FileID: H78904.D

83	p	bromobenzene	0.709	0.773	-9.0	82	0.00	14.18
84	p	1,1,2,2-tetrachloroethane	0.727	0.745	-2.5	81	0.00	13.54
85	p	1,2,3-trichloropropane	0.884	0.892	-0.9	74	0.00	13.69
86	p	n-propylbenzene	2.787	3.115	-11.8	83	0.00	14.35
87	p	2-chlorotoluene	1.767	1.994	-12.8	86	0.00	14.46
88	p	4-chlorotoluene	1.835	2.078	-13.2	84	0.00	14.54
89	p	1,3,5-trimethylbenzene	2.146	2.476	-15.4	89	0.00	14.63
90	p	tert-butylbenzene	1.292	1.552	-20.1#	92	0.00	14.93
91	p	1,2,4-trimethylbenzene	2.239	2.440	-9.0	84	0.00	15.04
92	p	sec-butylbenzene	2.479	2.943	-18.7	89	0.00	15.15
93	p	1,3-dichlorobenzene	1.230	1.342	-9.1	82	0.00	15.25
94	p	p-isopropyltoluene	2.203	2.597	-17.9	89	0.00	15.33
95	p	1,4-dichlorobenzene	1.409	1.538	-9.2	86	0.00	15.32
96	p	1,2-dichlorobenzene	1.332	1.411	-5.9	84	0.00	15.69
97	p	n-butylbenzene	1.992	2.380	-19.5	90	0.00	15.75
98	p	1,2-dibromo-3-chloropropa	0.198	0.197	0.5	79	0.00	16.17
99	p	1,3,5-trichlorobenzene	1.137	1.238	-8.9	83	0.00	16.98
100	p	1,2,4-trichlorobenzene	1.030	1.168	-13.4	85	0.00	17.54
101	p	hexachlorobutadiene	0.473	0.629	-33.0#	101	0.00	17.84
102	p	naphthalene	2.270	2.362	-4.1	76	0.00	17.81
103	p	1,2,3-trichlorobenzene	0.934	1.081	-15.7	87	0.00	18.03
104	p	2-Methylnaphthalene	0.995	1.099	-10.5	74	0.01	19.27
105	p	1-Methylnaphthalene	0.000	1.126	0.0	0#	0.00	19.27

(#) = Out of Range

SPCC's out = 8 CCC's out = 0

H78632.D H160219W.M

Tue Mar 01 13:39:30 2016

6.9.3

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Initial Calibration Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2920-ICC2920
Lab FileID: K94874.D

Response Factor Report MSK

Method : C:\msdchem\1\methods\K160215S.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Tue Feb 16 09:43:33 2016
Response via : Initial Calibration

Calibration Files

0.5 =k94868.D 1 =k94869.D 2 =k94870.D 5 =k94871.D
10 =k94872.D 25 =k94873.D 50 =k94874.D 100 =k94875.D
200 =k94876.D 400 =k94877.D = =

Compound	0.5	1	2	5	10	25	50	100	200	400	Avg	%RSD

1) I Tert butyl alcohol-d9	-----ISTD-----											
2) tertiary butyl alcohol				1.499	1.302	1.409	1.374	1.340	1.346	1.273	1.363	5.46
3) Ethanol				0.122	0.116	0.107	0.111	0.110	0.106	0.112		5.29
4) I pentafluorobenzene	-----ISTD-----											
5) dichlorodifluoromethane		0.814	1.145	1.035	0.972	0.848	0.946	0.960	0.814	0.942		12.23
6) chloromethane			0.871	0.730	0.691	0.600	0.627	0.639	0.505	0.666		17.24
7) vinyl chloride			0.255	0.398	0.440	0.369	0.317	0.309	0.305		0.342	18.58
8) bromomethane			0.347	0.410	0.394	0.391	0.352	0.361	0.358	0.286	0.362	10.59
9) chloroethane			0.300	0.277	0.278	0.256	0.271	0.271	0.226	0.268		8.54
10) dichlorofluoromethane			1.168	0.986	1.009	0.932	0.939	0.932	0.776	0.963		12.15
11) ethyl ether			0.393	0.373	0.391	0.383	0.374	0.360	0.330	0.372		5.82
12) acetonitrile				0.276	0.291	0.249	0.283	0.286	0.248	0.272		6.98
13) trichlorofluoromethane			1.065	1.184	1.312	1.244	1.072	1.206	1.196	1.013	1.162	8.74
14) freon-113			0.496	0.507	0.558	0.460	0.503	0.521	0.441	0.498		7.78
15) acrolein			0.028	0.035	0.035	0.033	0.036	0.036	0.033	0.034#		7.66
16) 1,1-dichloroethene			0.281	0.308	0.230	0.209	0.223	0.198	0.171	0.146	0.221	24.28
---- Quadratic regression ---- Coefficient = 0.9978												
Response Ratio = 0.00479 + 0.21110 *A + -0.00845 *A^2												
17) acetone				0.148	0.148	0.133	0.147	0.145	0.141	0.144		4.19
18) Methyl Acetate				0.628	0.522	0.455	0.465	0.445	0.413	0.359	0.470	18.25
19) methylene chloride			0.835	0.723	0.639	0.638	0.574	0.575	0.556	0.493	0.629	17.11
20) methyl tert butyl ether			1.745	1.760	1.415	1.519	1.453	1.489	1.440	1.295	1.515	10.64
21) acrylonitrile				0.232	0.236	0.240	0.229	0.231	0.223	0.198	0.227	6.12

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2920-ICC2920
Lab FileID: K94874.D

22)	allyl chloride	0.795	0.668	0.662	0.626	0.607	0.534	0.483	0.625	16.11
23)	trans-1,2-dichloroethene	0.570	0.604	0.516	0.511	0.490	0.490	0.493	0.452	9.45
24)	iodomethane	0.619	0.531	0.624	0.450	0.625	0.633	0.616	0.585	11.81
25)	carbon disulfide	1.710	1.520	1.598	1.479	1.580	1.657	1.498	1.577	5.41
26)	propionitrile	0.079	0.081	0.092	0.086	0.089	0.090	0.081	0.085	6.00
27)	vinyl acetate	1.113	0.802	0.906	0.905	0.963	0.942	0.886	0.931	10.21
28)	chloroprene	0.949	0.778	0.798	0.782	0.791	0.792	0.704	0.799	9.19
29)	di-isopropyl ether	2.026	1.807	1.678	1.706	1.605	1.587	1.462	1.223	14.47
30)	methacrylonitrile	0.345	0.292	0.328	0.319	0.315	0.301	0.277	0.311	7.31
31)	2-butanone	0.059	0.044	0.051	0.048	0.054	0.052	0.050	0.051#	8.93
32)	Hexane	0.822	0.720	0.690	0.610	0.594	0.574	0.481	0.642	17.38
33)	1,1-dichloroethane	1.163	1.140	1.013	1.008	0.949	0.955	0.934	0.846	10.61
34)	tert-butyl ethyl ether	1.945	1.944	1.599	1.723	1.638	1.632	1.572	1.361	11.63
35)	isobutyl alcohol								0.000#	-1.00
36)	2,2-dichloropropane	0.882	0.733	0.673	0.627	0.583	0.562		0.677	17.46
37)	cis-1,2-dichloroethene	0.725	0.654	0.573	0.595	0.552	0.548	0.535	0.483	12.97
38)	ethyl acetate								0.000#	-1.00
39)	bromochloromethane	0.322	0.307	0.314	0.292	0.295	0.290	0.263	0.298	6.50
40)	chloroform	1.232	1.229	1.103	1.076	1.018	0.992	0.957	0.828	12.96
41)	dibromofluoromethane (s)	0.510	0.503	0.506	0.524	0.538	0.524	0.515	0.497	4.18
42)	Tetrahydrofuran	0.224	0.156	0.157	0.151	0.161	0.159	0.152	0.166	15.69
43)	1,1,1-trichloroethane	0.880	1.043	0.923	0.917	0.865	0.893	0.910	0.801	7.57
44)	I 1,4-difluorobenzene	-----ISTD-----								
45)	Cyclohexane	0.629	0.580	0.622	0.536	0.556	0.617	0.534	0.582	7.07
46)	carbon tetrachloride	0.536	0.650	0.587	0.601	0.560	0.579	0.583	0.504	7.60
47)	1,1-dichloropropene	0.556	0.447	0.482	0.461	0.473	0.489	0.450	0.480	7.77
48)	benzene	1.594	1.903	1.506	1.531	1.345	1.321	1.238	1.219	18.67
49)	1,2-dichloroethane	0.643	0.687	0.596	0.618	0.583	0.605	0.602	0.558	6.42
50)	tert-amyl methyl ether	1.416	1.308	0.977	1.028	0.978	1.033	1.021	0.911	16.45
51)	heptane	0.444	0.338	0.354	0.299	0.321	0.349	0.317	0.346	13.67

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2920-ICC2920
Lab FileID: K94874.D

52)	trichloroethene	0.453	0.494	0.438	0.471	0.392	0.401	0.372	0.379	0.375	0.339	0.411	12.15
53)	1,2-dichloropropane	0.441	0.422	0.366	0.386	0.362	0.372	0.365	0.323	0.380		9.73	
54)	dibromomethane	0.274	0.253	0.262	0.250	0.262	0.259	0.232	0.256		5.06		
55)	bromodichloromethane	0.478	0.568	0.490	0.529	0.519	0.543	0.537	0.499	0.520		5.78	
56)	Methylcyclohexane	0.565	0.469	0.503	0.435	0.450	0.469	0.397	0.470		11.34		
57)	2-chloroethyl vinyl ether	0.204	0.188	0.221	0.206	0.232	0.232	0.220	0.215		7.53		
58)	methyl methacrylate	0.231	0.175	0.205	0.206	0.225	0.228	0.215	0.212		9.04		
59)	1,4-dioxane	0.003	0.004	0.005	0.005	0.005	0.004#				18.59		
60)	cis-1,3-dichloropropene	0.540	0.580	0.470	0.527	0.530	0.569	0.574	0.536	0.541		6.54	
61)	toluene-d8 (s)	1.148	1.150	1.137	1.182	1.172	1.179	1.208	1.244	1.264	1.195	3.97	
62)	4-methyl-2-pentanone	0.493	0.345	0.389	0.380	0.410	0.402	0.365	0.398		11.90		
63)	toluene	0.957	1.067	0.921	0.936	0.808	0.841	0.796	0.818	0.805	0.724	0.867	11.64
64)	trans-1,3-dichloropropene	0.491	0.551	0.421	0.494	0.509	0.549	0.561	0.528	0.513		8.88	
65)	1,1,2-trichloroethane	0.304	0.308	0.266	0.283	0.272	0.287	0.286	0.264	0.284		5.71	
66)	ethyl methacrylate	0.466	0.350	0.400	0.398	0.421	0.404	0.360	0.400		9.58		
67)	I chlorobenzene-d5	-----ISTD-----											
68)	tetrachloroethene	1.038	1.134	0.929	0.892	0.825	0.835	0.757	0.792	0.814	0.763	0.878	14.11
69)	1,3-dichloropropane	1.089	0.899	0.948	0.867	0.907	0.875	0.837	0.917		9.08		
70)	dibromochloromethane	0.658	0.779	0.622	0.699	0.695	0.776	0.814	0.811	0.732		9.96	
71)	1,2-dibromoethane	0.694	0.728	0.621	0.660	0.629	0.687	0.703	0.688	0.676		5.43	
72)	2-hexanone	0.569	0.361	0.394	0.393	0.437	0.444	0.440	0.434		15.48		
73)	chlorobenzene	2.236	2.058	1.824	1.834	1.702	1.796	1.771	1.666	1.861		10.31	
74)	1,1,1,2-tetrachloroethane	0.846	0.757	0.808	0.763	0.830	0.828	0.761	0.799		4.73		
75)	ethylbenzene	3.701	4.391	3.517	3.699	3.052	3.246	2.986	3.112	3.029	2.791	3.352	14.27
76)	m,p-xylene	1.301	1.678	1.350	1.370	1.160	1.203	1.092	1.112	1.068	0.965	1.230	16.58
77)	o-xylene	1.527	1.710	1.532	1.481	1.284	1.323	1.187	1.228	1.186	1.073	1.353	14.80
78)	styrene	2.152	1.759	1.905	1.820	1.932	1.904	1.771	1.892		7.07		
79)	bromoform	0.516	0.552	0.458	0.507	0.528	0.606	0.646	0.655	0.559		12.63	
80)	cis-1,4-dichloro-2-butene	0.300	0.240	0.295	0.302	0.341	0.337	0.330	0.306		11.38		
81)	trans-1,4-dichloro-2-butene	0.296	0.236	0.266	0.254	0.265	0.252	0.235	0.258		8.13		

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Job Number: MC44517
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82) I	1,4-dichlorobenzene-d	-----ISTD-----											
83)	isopropylbenzene	3.457	2.817	3.161	3.067	3.158	3.275	3.030	3.138	6.39			
84)	bromofluorobenzene (s)	0.822	0.819	0.828	0.841	0.833	0.828	0.870	0.874	0.883	0.941	0.854	4.50
85)	bromobenzene	0.976	0.842	0.898	0.910	0.932	0.960	0.917	0.919	4.77			
86)	1,1,2,2-tetrachloroethane	0.909	0.869	0.723	0.801	0.770	0.785	0.777	0.712	0.793	8.46		
87)	1,2,3-trichloropropane	0.996	0.809	0.921	0.930	0.972	0.984	0.940	0.936	6.70			
88)	n-propylbenzene	3.928	3.247	3.590	3.480	3.530	3.617	3.359	3.536	6.12			
89)	2-chlorotoluene	2.597	2.121	2.272	2.223	2.267	2.323	2.171	2.282	6.76			
90)	4-chlorotoluene	2.554	2.102	2.254	2.197	2.195	2.221	2.100	2.232	6.87			
91)	1,3,5-trimethylbenzene	3.102	2.675	2.929	2.421	2.721	2.620	2.675	2.771	2.565	2.720	7.35	
92)	tert-butylbenzene	1.627	1.313	1.524	1.485	1.568	1.694	1.601	1.545	7.95			
93)	1,2,4-trimethylbenzene	3.396	2.908	3.104	2.565	2.869	2.776	2.844	2.888	2.674	2.892	8.39	
94)	sec-butylbenzene	3.464	2.951	3.282	3.066	3.200	3.397	3.157	3.217	5.61			
95)	1,3-dichlorobenzene	1.918	1.863	1.645	1.670	1.592	1.603	1.608	1.567	1.683	7.87		
96)	p-isopropyltoluene	2.990	2.559	2.783	2.548	2.612	2.720	2.453	2.666	6.77			
97)	1,4-dichlorobenzene	1.969	1.813	1.592	1.643	1.540	1.511	1.460	1.288	1.602	13.18		
98)	1,2-dichlorobenzene	2.070	1.952	1.658	1.786	1.746	1.797	1.809	1.675	1.812	7.63		
99)	n-butylbenzene	2.950	2.471	2.694	2.474	2.522	2.649	2.406	2.595	7.20			
100)	1,2-dibromo-3-chloropropane	0.184	0.140	0.158	0.159	0.185	0.204	0.207	0.177	14.28			
101)	1,3,5-trichlorobenzene	1.919	1.665	1.783	1.622	1.707	1.797	1.642	1.734	6.09			
102)	1,2,4-trichlorobenzene	1.641	1.403	1.571	1.437	1.537	1.604	1.468	1.523	5.86			
103)	hexachlorobutadiene	0.907	0.736	0.775	0.673	0.718	0.812	0.755	0.768	9.81			
104)	naphthalene	2.859	2.402	2.803	2.692	2.910	2.983	2.745	2.771	6.85			
105)	1,2,3-trichlorobenzene	1.277	1.038	1.196	1.086	1.171	1.241	1.141	1.164	7.21			
106)	2-methylnaphthalene	0.773	0.510	0.700	0.692	0.799	0.937	0.925	0.762	19.39			
107)	1-methylnaphthalene	0.356	0.466	0.506	0.576	0.658	0.657	0.537	21.95				
---- Linear regression ---- Coefficient = 0.9974													
Response Ratio = -0.04150 + 0.65935 *A													

```
(#) = Out of Range   ###  Number of calibration levels exceeded format  ###
```

K160215S.M Tue Feb 16 12:15:34 2016

Initial Calibration Verification

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2920-ICV2920
Lab FileID: K94880.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\160215\k94880.D Vial: 25
Acq On : 15 Feb 2016 10:35 pm Operator: toddb1
Sample : icv2920-50 Inst : MSK
Misc : ms34968,msk2920,10,,100,10,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\K160215S.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Tue Feb 16 09:43:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1 I	Tert butyl alcohol-d9	500.000	500.000	0.0	113	0.00	6.41
2 p	tertiary butyl alcohol	500.000	506.603	-1.3	113	0.00	6.50
3 p	Ethanol	5000.000	4551.065	9.0	108	0.00	5.47
4 I	pentafluorobenzene	50.000	50.000	0.0	108	0.00	8.75
5 p	dichlorodifluoromethane	50.000	44.892	10.2	108	0.00	4.21
6 p	chloromethane	50.000	45.660	8.7	110	0.00	4.41
7 p	vinyl chloride	50.000	40.368	19.3	94	0.00	4.65
8 p	bromomethane	50.000	49.153	1.7	110	0.00	5.12
9 p	chloroethane	50.000	52.347	-4.7	119	0.01	5.30
10 p	dichlorofluoromethane	50.000	45.266	9.5	102	0.00	5.36
11 p	ethyl ether	50.000	52.366	-4.7	110	0.00	6.10
12 p	acetoneitrile	50.000	51.577	-3.2	122	0.01	5.91
13 p	trichlorofluoromethane	50.000	50.496	-1.0	119	0.00	5.95
14 p	freon-113	50.000	51.097	-2.2	120	0.02	6.76
15 p	acrolein	250.000	675.327	-170.1#	298	0.00	5.85
----- Amount Calc. %Drift -----							
16 p	1,1-dichloroethene	50.000	57.531	-15.1	115	-0.05	6.44
----- Amount Calc. %Drift -----							
17 p	acetone	50.000	49.170	1.7	115	-0.01	5.97
18 p	Methyl Acetate	50.000	60.011	-20.0	132	0.00	6.59
19 p	methylene chloride	50.000	47.664	4.7	113	0.00	6.61
20 p	methyl tert butyl ether	50.000	49.420	1.2	112	0.00	7.36
21 p	acrylonitrile	50.000	49.848	0.3	107	0.00	6.47
22 p	allyl chloride	50.000	53.142	-6.3	115	0.00	6.67
23 p	trans-1,2-dichloroethene	50.000	46.944	6.1	107	0.00	7.25
24 p	iodomethane	50.000	43.241	13.5	122	0.04	6.57
25 p	carbon disulfide	50.000	46.375	7.2	107	0.00	6.89
26 p	propionitrile	50.000	51.615	-3.2	112	0.00	7.50
27 p	vinyl acetate	50.000	48.734	2.5	109	0.00	7.58
28 p	chloroprene	50.000	49.313	1.4	109	0.00	7.87
29 p	di-isopropyl ether	50.000	49.792	0.4	110	0.00	7.92
30 p	methacrylonitrile	50.000	49.419	1.2	105	0.00	8.00
31 p	2-butanone	50.000	41.894	16.2	96	0.00	7.91
32 p	Hexane	50.000	50.442	-0.9	115	0.00	7.91
33 P	1,1-dichloroethane	50.000	48.456	3.1	111	0.00	7.51
34 p	tert-butyl ethyl ether	50.000	47.787	4.4	106	0.00	8.31
35 p	isobutyl alcohol	250.000	0.000	100.0#	0	0.01	8.34
36 p	2,2-dichloropropane	50.000	40.589	18.8	95	0.00	8.37
37 p	cis-1,2-dichloroethene	50.000	51.303	-2.6	118	0.00	8.08

Initial Calibration Verification

Job Number: MC44517

Sample: MSK2920-ICV2920

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: K94880.D

Project: River Forest, 7613 Lake Street, River Forest, IL

38	p	ethyl acetate	50.000	0.000	100.0#	0	0.00	8.19
39	p	bromochloromethane	50.000	50.271	-0.5	111	0.00	8.23
40	p	chloroform	50.000	47.224	5.6	106	0.00	8.27
41	S	dibromofluoromethane (s)	50.000	49.754	0.5	106	0.00	8.38
42	p	Tetrahydrofuran	50.000	44.872	10.3	107	0.00	8.60
43	p	1,1,1-trichloroethane	50.000	49.403	1.2	112	0.00	9.04
44	I	1,4-difluorobenzene	50.000	50.000	0.0	106	0.00	9.60
45	p	Cyclohexane	50.000	45.478	9.0	105	0.00	9.34
46	p	carbon tetrachloride	50.000	50.833	-1.7	111	0.00	9.40
47	p	1,1-dichloropropene	50.000	50.572	-1.1	112	0.00	9.20
48	p	benzene	50.000	47.540	4.9	113	0.00	9.40
49	p	1,2-dichloroethane	50.000	48.770	2.5	109	0.00	8.91
50	p	tert-amyl methyl ether	50.000	47.524	5.0	112	0.00	9.55
51	p	heptane	50.000	52.889	-5.8	130	0.00	9.91
52	p	trichloroethene	50.000	47.744	4.5	112	0.00	10.03
53	p	1,2-dichloropropane	50.000	50.209	-0.4	112	0.00	9.99
54	p	dibromomethane	50.000	49.807	0.4	108	0.00	9.96
55	p	bromodichloromethane	50.000	48.421	3.2	103	0.00	10.08
56	p	Methylcyclohexane	50.000	53.095	-6.2	122	0.00	10.57
57	p	2-chloroethyl vinyl ether	50.000	54.307	-8.6	121	0.00	10.45
58	p	methyl methacrylate	50.000	51.360	-2.7	113	0.00	10.17
59	p	1,4-dioxane	250.000	244.186	2.3	121	0.00	10.19
60	p	cis-1,3-dichloropropene	50.000	49.759	0.5	108	0.00	10.70
61	S	toluene-d8 (s)	50.000	50.554	-1.1	106	0.00	11.39
62	p	4-methyl-2-pentanone	50.000	50.196	-0.4	112	0.00	10.78
63	p	toluene	50.000	47.884	4.2	111	0.00	11.46
64	p	trans-1,3-dichloropropene	50.000	46.912	6.2	100	0.00	11.11
65	p	1,1,2-trichloroethane	50.000	49.783	0.4	110	0.00	11.28
66	p	ethyl methacrylate	50.000	50.928	-1.9	109	0.00	11.49
67	I	chlorobenzene-d5	50.000	50.000	0.0	103	0.00	12.85
68	p	tetrachloroethene	50.000	47.221	5.6	113	0.00	12.22
69	p	1,3-dichloropropane	50.000	51.648	-3.3	113	0.00	11.52
70	p	dibromochloromethane	50.000	49.460	1.1	107	0.00	11.80
71	p	1,2-dibromoethane	50.000	49.988	0.0	111	0.00	12.05
72	p	2-hexanone	50.000	42.313	15.4	96	0.00	11.64
73	p	chlorobenzene	50.000	48.591	2.8	109	0.00	12.89
74	p	1,1,1,2-tetrachloroethane	50.000	50.414	-0.8	109	0.00	12.82
75	p	ethylbenzene	50.000	47.551	4.9	110	0.00	13.06
76	p	m,p-xylene	100.000	94.751	5.2	110	0.00	13.24
77	p	o-xylene	50.000	46.404	7.2	109	0.00	13.66
78	p	styrene	50.000	49.120	1.8	105	0.00	13.58
79	P	bromoform	50.000	49.077	1.8	107	0.00	13.40
80	p	cis-1,4-dichloro-2-butene	50.000	51.859	-3.7	108	0.00	13.49
81	p	trans-1,4-dichloro-2-bute	50.000	47.963	4.1	100	0.00	13.81
82	I	1,4-dichlorobenzene-d4	50.000	50.000	0.0	104	0.00	15.41
83	p	isopropylbenzene	50.000	51.640	-3.3	110	0.00	14.02
84	S	bromofluorobenzene (s)	50.000	51.190	-2.4	105	0.00	14.07
85	p	bromobenzene	50.000	51.987	-4.0	109	0.00	14.31
86	P	1,1,2,2-tetrachloroethane	50.000	52.665	-5.3	113	0.00	13.67
87	p	1,2,3-trichloropropane	50.000	51.154	-2.3	107	0.00	13.81
88	p	n-propylbenzene	50.000	51.608	-3.2	109	0.00	14.47
89	p	2-chlorotoluene	50.000	50.633	-1.3	108	0.00	14.59
90	p	4-chlorotoluene	50.000	50.951	-1.9	108	0.00	14.67
91	p	1,3,5-trimethylbenzene	50.000	52.722	-5.4	114	0.00	14.74
92	p	tert-butylbenzene	50.000	52.441	-4.9	114	0.00	15.05
93	p	1,2,4-trimethylbenzene	50.000	49.730	0.5	108	0.00	15.15
94	p	sec-butylbenzene	50.000	52.612	-5.2	115	0.00	15.28

Initial Calibration Verification

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Job Number: MC44517

Sample: MSK2920-ICV2920

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: K94880.D

Project: River Forest, 7613 Lake Street, River Forest, IL

95 p	1,3-dichlorobenzene	50.000	49.530	0.9	109	0.00	15.38
96 p	p-isopropyltoluene	50.000	52.769	-5.5	115	0.00	15.44
97 p	1,4-dichlorobenzene	50.000	50.176	-0.4	109	0.00	15.44
98 p	1,2-dichlorobenzene	50.000	49.903	0.2	108	0.00	15.82
99 p	n-butylbenzene	50.000	53.668	-7.3	117	0.00	15.86
100 p	1,2-dibromo-3-chloropropa	50.000	48.123	3.8	112	0.00	16.28
101 p	1,3,5-trichlorobenzene	50.000	48.830	2.3	109	0.00	17.10
102 p	1,2,4-trichlorobenzene	50.000	51.341	-2.7	113	0.00	17.64
103 p	hexachlorobutadiene	50.000	55.264	-10.5	131	0.00	17.93
104 p	naphthalene	50.000	47.404	5.2	102	0.00	17.88
105 p	1,2,3-trichlorobenzene	50.000	51.876	-3.8	116	0.00	18.11
106 p	2-methylnaphthalene	25.000	19.030	23.9	87	0.00	19.22
107 p	1-methylnaphthalene	25.000	17.296	30.8#	77	0.00	19.45

(#) = Out of Range

k94874.D K160215S.M

SPCC's out = 0 CCC's out = 0

Tue Feb 16 12:15:31 2016

Continuing Calibration Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2931-CC2920
Lab FileID: K95291.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\160301\k95291.D Vial: 4
 Acq On : 1 Mar 2016 12:54 pm Operator: toddb1
 Sample : cc2920-50 Inst : MSK
 Misc : ms36168,msk2931,10,,100,10,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\K160215S.M (RTE Integrator)
 Title : SW-846 Method 8260, acetonitrile=10, ethanol=1000
 Last Update : Wed Feb 17 14:18:00 2016
 Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	Tert butyl alcohol-d9	1.000	1.000	0.0	92	0.00	6.42
2 p	tertiary butyl alcohol	1.363	1.408	-3.3	95	0.00	6.50
3 p	Ethanol	0.112	0.113	-0.9	98	0.00	5.47
4 I	pentafluorobenzene	1.000	1.000	0.0	82	0.00	8.75
5 p	dichlorodifluoromethane	0.942	0.719	23.7#	70	0.01	4.20
6 p	chloromethane	0.666	0.647	2.9	89	0.02	4.42
7 p	vinyl chloride	0.342	0.382	-11.7	99	0.00	4.64
8 p	bromomethane	0.362	0.424	-17.1	99	0.01	5.12
9 p	chloroethane	0.268	0.313	-16.8	101	0.00	5.30
10 p	dichlorofluoromethane	0.963	1.131	-17.4	100	0.00	5.35
11 p	ethyl ether	0.372	0.403	-8.3	87	0.00	6.09
12 p	acetonitrile	0.272	0.299	-9.9	99	0.02	5.91
13 p	trichlorofluoromethane	1.162	1.326	-14.1	102	0.00	5.95
14 p	freon-113	0.498	0.556	-11.6	99	0.00	6.74
15 p	acrolein	0.034	0.087	-155.9#	215#	0.00	5.84
----- Amount Calc. %Drift -----							
16 p	1,1-dichloroethene	50.000	57.075	-14.2	87	-0.05	6.43
----- AvgRF CCRF %Dev -----							
17 p	acetone	0.144	0.152	-5.6	94	0.00	5.97
18 p	Methyl Acetate	0.470	0.608	-29.4#	108	0.00	6.59
19 p	methylene chloride	0.629	0.623	1.0	89	0.00	6.60
20 p	methyl tert butyl ether	1.515	1.621	-7.0	92	0.00	7.36
21 p	acrylonitrile	0.227	0.239	-5.3	86	0.00	6.47
22 p	allyl chloride	0.625	0.774	-23.8#	102	0.00	6.67
23 p	trans-1,2-dichloroethene	0.516	0.489	5.2	82	0.00	7.25
24 p	iodomethane	0.585	0.595	-1.7	109	0.04	6.56
25 p	carbon disulfide	1.577	1.551	1.6	86	0.00	6.89
26 p	propionitrile	0.085	0.093	-9.4	90	0.00	7.50
27 p	vinyl acetate	0.931	1.002	-7.6	91	0.00	7.58
28 p	chloroprene	0.799	0.867	-8.5	91	0.00	7.86
29 p	di-isopropyl ether	1.637	1.739	-6.2	89	0.00	7.92
30 p	methacrylonitrile	0.311	0.316	-1.6	82	0.00	8.00
31 p	2-butanone	0.051	0.044#	13.7	75	0.00	7.90
32 p	Hexane	0.642	0.739	-15.1	100	0.00	7.91
33 P	1,1-dichloroethane	1.001	1.019	-1.8	88	0.00	7.50
34 p	tert-butyl ethyl ether	1.677	1.736	-3.5	87	0.00	8.31
35 p	isobutyl alcohol	0.000	0.065	0.0	0#	0.00	8.34
36 p	2,2-dichloropropane	0.677	0.751	-10.9	99	0.00	8.37
37 p	cis-1,2-dichloroethene	0.583	0.610	-4.6	91	0.00	8.08

Continuing Calibration Summary

Page 2 of 3

Job Number: MC44517

Sample: MSK2931-CC2920

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: K95291.D

Project: River Forest, 7613 Lake Street, River Forest, IL

38 p	ethyl acetate	0.000	0.240	0.0	0#	0.00	8.19
39 p	bromochloromethane	0.298	0.312	-4.7	88	0.00	8.23
40 p	chloroform	1.054	1.109	-5.2	90	0.00	8.27
41 S	dibromofluoromethane (s)	0.507	0.536	-5.7	85	0.00	8.38
42 p	Tetrahydrofuran	0.166	0.153	7.8	83	0.00	8.59
43 p	1,1,1-trichloroethane	0.904	1.064	-17.7	101	0.00	9.03
44 I	1,4-difluorobenzene	1.000	1.000	0.0	81	0.00	9.60
45 p	Cyclohexane	0.582	0.534	8.2	81	0.00	9.35
46 p	carbon tetrachloride	0.575	0.690	-20.0	100	0.00	9.39
47 p	1,1-dichloropropene	0.480	0.498	-3.8	88	0.00	9.20
48 p	benzene	1.382	1.304	5.6	85	0.00	9.40
49 p	1,2-dichloroethane	0.612	0.694	-13.4	97	0.00	8.91
50 p	tert-amyl methyl ether	1.084	1.044	3.7	87	0.00	9.55
51 p	heptane	0.346	0.372	-7.5	101	0.00	9.91
52 p	trichloroethene	0.411	0.402	2.2	88	0.00	10.03
53 p	1,2-dichloropropane	0.380	0.376	1.1	84	0.00	9.99
54 p	dibromomethane	0.256	0.272	-6.3	88	0.00	9.96
55 p	bromodichloromethane	0.520	0.564	-8.5	88	0.00	10.08
56 p	Methylcyclohexane	0.470	0.488	-3.8	91	0.00	10.57
57 p	2-chloroethyl vinyl ether	0.215	0.214	0.5	85	0.00	10.45
58 p	methyl methacrylate	0.212	0.211	0.5	83	0.00	10.17
59 p	1,4-dioxane	0.004	0.004#	0.0	93	0.00	10.19
60 p	cis-1,3-dichloropropene	0.541	0.558	-3.1	85	0.00	10.70
61 S	toluene-d8 (s)	1.195	1.208	-1.1	81	0.00	11.39
62 p	4-methyl-2-pentanone	0.398	0.415	-4.3	89	0.00	10.78
63 p	toluene	0.867	0.824	5.0	84	0.00	11.46
64 p	trans-1,3-dichloropropene	0.513	0.522	-1.8	83	0.00	11.11
65 p	1,1,2-trichloroethane	0.284	0.281	1.1	84	0.00	11.28
66 p	ethyl methacrylate	0.400	0.403	-0.8	82	0.00	11.49
67 I	chlorobenzene-d5	1.000	1.000	0.0	84	0.00	12.85
68 p	tetrachloroethene	0.878	0.788	10.3	88	0.00	12.22
69 p	1,3-dichloropropane	0.917	0.915	0.2	89	0.00	11.52
70 p	dibromochloromethane	0.732	0.737	-0.7	89	0.00	11.80
71 p	1,2-dibromoethane	0.676	0.646	4.4	86	0.00	12.05
72 p	2-hexanone	0.434	0.376	13.4	81	0.00	11.64
73 p	chlorobenzene	1.861	1.721	7.5	85	0.00	12.89
74 p	1,1,1,2-tetrachloroethane	0.799	0.815	-2.0	90	0.00	12.82
75 p	ethylbenzene	3.352	3.088	7.9	87	0.00	13.06
76 p	m,p-xylene	1.230	1.111	9.7	85	0.00	13.24
77 p	o-xylene	1.353	1.185	12.4	84	0.00	13.66
78 p	styrene	1.892	1.730	8.6	80	0.00	13.58
79 P	bromoform	0.559	0.549	1.8	87	0.00	13.40
80 p	cis-1,4-dichloro-2-butene	0.306	0.352	-15.0	98	0.00	13.49
81 p	trans-1,4-dichloro-2-bute	0.258	0.267	-3.5	88	0.00	13.81
82 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	85	0.00	15.41
83 p	isopropylbenzene	3.138	3.222	-2.7	89	0.00	14.02
84 S	bromofluorobenzene (s)	0.854	0.851	0.4	83	0.00	14.08
85 p	bromobenzene	0.919	0.940	-2.3	88	0.00	14.31
86 P	1,1,2,2-tetrachloroethane	0.793	0.788	0.6	87	0.00	13.67
87 p	1,2,3-trichloropropane	0.936	0.944	-0.9	86	0.00	13.81
88 p	n-propylbenzene	3.536	3.520	0.5	86	0.00	14.47
89 p	2-chlorotoluene	2.282	2.296	-0.6	88	0.00	14.59
90 p	4-chlorotoluene	2.232	2.287	-2.5	88	0.00	14.67
91 p	1,3,5-trimethylbenzene	2.720	2.866	-5.4	93	0.00	14.74
92 p	tert-butylbenzene	1.545	1.644	-6.4	94	0.00	15.05
93 p	1,2,4-trimethylbenzene	2.892	2.913	-0.7	89	0.00	15.15
94 p	sec-butylbenzene	3.217	3.274	-1.8	91	0.00	15.28

6.9.6

6

Continuing Calibration Summary

Page 3 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSK2931-CC2920
Lab FileID: K95291.D

95 p	1,3-dichlorobenzene	1.683	1.659	1.4	89	0.00	15.38
96 p	p-isopropyltoluene	2.666	2.765	-3.7	92	0.00	15.44
97 p	1,4-dichlorobenzene	1.602	1.581	1.3	87	0.00	15.44
98 p	1,2-dichlorobenzene	1.812	1.794	1.0	87	0.00	15.82
99 p	n-butylbenzene	2.595	2.736	-5.4	94	0.00	15.86
100 p	1,2-dibromo-3-chloropropa	0.177	0.165	6.8	88	0.00	16.28
101 p	1,3,5-trichlorobenzene	1.734	1.579	8.9	83	0.00	17.10
102 p	1,2,4-trichlorobenzene	1.523	1.323	13.1	78	0.00	17.64
103 p	hexachlorobutadiene	0.768	0.783	-2.0	99	0.00	17.93
104 p	naphthalene	2.771	2.149	22.4#	68	0.00	17.88
105 p	1,2,3-trichlorobenzene	1.164	0.931	20.0#	73	0.00	18.11
106 p	2-methylnaphthalene	0.762	0.781	-2.5	96	0.00	19.21
----- Amount Calc. %Drift -----							
107 p	1-methylnaphthalene	25.000	27.542	-10.2	108	0.00	19.45

(#) = Out of Range SPCC's out = 2 CCC's out = 0
k94915.D K160215S.M Tue Mar 01 13:28:05 2016

Initial Calibration Summary

Page 1 of 5

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICC3649
Lab FileID: N99835.D

Response Factor Report MSN

Method : C:\msdchem\1\methods\n160218w.m (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Feb 19 08:38:02 2016
Response via : Initial Calibration

Calibration Files

0.5 =N99829.D 1 =N99830.D 2 =N99831.D 5 =N99832.D
10 =N99833.D 20 =N99834.D 50 =N99835.D 100 =N99836.D
200 =N99837.D 400 =N99838.D = =

Compound	0.5	1	2	5	10	20	50	100	200	400	Avg	%RSD
1) I tert butyl alcohol-d9 -----ISTD-----												
2) tertiary butyl alcohol												
	1.958	2.065	2.520	2.083	2.016	1.884	1.638	1.476	1.955	16.02		
3) Ethanol												
	0.382	0.371	0.464	0.372	0.367	0.362	0.305	0.260	0.360	16.47		
4) I pentafluorobenzene -----ISTD-----												
5) dichlorodifluoromethane												
	0.497	0.544	0.570	0.382	0.494	0.435	0.549	0.548	0.502	12.95		
6) chloromethane												
	0.525	0.511	0.535	0.510	0.537	0.533	0.574	0.658	0.548	8.89		
7) vinyl chloride												
	0.556	0.519	0.486	0.520	0.418	0.454	0.426	0.414	0.302	0.455	16.81	
8) bromomethane												
	0.175	0.176	0.213	0.204	0.238	0.277	0.332		0.231	24.69		
---- Quadratic regression ---- Coefficient = 0.9997												
Response Ratio = -0.00228 + 0.21149 *A + 0.03051 *A^2												
9) chloroethane												
	0.249	0.263	0.276	0.248	0.261	0.262	0.260	0.262	0.260	3.32		
10) ethyl ether												
	0.382	0.377	0.427	0.405	0.407	0.404	0.405	0.395	0.400	3.95		
11) acetonitrile												
	0.070	0.062	0.059	0.063	0.063	0.056	0.062	7.42				
12) trichlorofluoromethane												
	0.620	0.665	0.708	0.772	0.541	0.678	0.605	0.746	0.752	0.676	11.37	
13) freon-113												
	0.298	0.399	0.472	0.373	0.375	0.346	0.424	0.406	0.386	13.51		
14) acrolein												
	0.046	0.047	0.051	0.054	0.053	0.054	0.054	0.051	6.57			
15) 1,1-dichloroethene												
	0.482	0.399	0.434	0.498	0.409	0.417	0.398	0.436	0.433	0.434	8.09	
16) acetone												
	0.092	0.071	0.069	0.061	0.053	0.050	0.066#	22.93				
---- Linear regression ---- Coefficient = 0.9936												
Response Ratio = 0.00984 + 0.05061 *A												
17) Methyl Acetate												
	0.337	0.390	0.359	0.373	0.356	0.355	0.323	0.356	6.21			
18) methylene chloride												
	0.606	0.556	0.640	0.560	0.538	0.520	0.529	0.516	0.558	7.88		
19) methyl tert butyl ether												
	0.743	0.598	0.710	0.797	0.946	0.909	0.906	1.010	1.000	0.847	16.77	
20) acrylonitrile												

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICC3649
Lab FileID: N99835.D

	0.156	0.166	0.193	0.177	0.178	0.177	0.184	0.178	0.176	6.33
21) allyl chloride										
	0.784	0.811	0.962	0.866	0.865	0.832	0.827	0.562	0.813	14.10
22) trans-1,2-dichloroethene										
	0.544	0.448	0.482	0.561	0.482	0.486	0.485	0.508	0.498	6.94
23) iodomethane										
	0.126	0.199	0.256	0.378	0.478	0.488			0.321	46.86
---- Quadratic regression ---- Coefficient = 0.9953										
Response Ratio = -0.03819 + 0.41441 *A + 0.02256 *A^2										
24) carbon disulfide										
	1.404	1.609	1.894	1.622	1.644	1.635	1.777	1.714	1.662	8.56
25) propionitrile										
	0.069	0.069	0.070	0.069	0.070	0.069	0.069	0.069	0.069	1.03
26) vinyl acetate										
	0.815	0.941	0.967	1.026	1.033	1.077	1.048	0.987		9.05
27) chloroprene										
	0.671	0.799	0.976	0.830	0.841	0.813	0.839	0.756	0.816	10.57
28) di-isopropyl ether										
	1.888	1.881	2.166	1.906	1.859	1.798	1.658	1.426	1.823	11.71
29) methacrylonitrile										
	0.299	0.312	0.341	0.314	0.305	0.299	0.301	0.294	0.308	4.87
30) 2-butanone										
	0.056	0.053	0.049	0.049	0.047	0.045	0.050#			8.43
31) Hexane										
	0.580	0.675	0.765	0.656	0.601	0.575	0.583	0.501	0.617	12.96
32) 1,1-dichloroethane										
	1.086	0.959	0.990	1.135	1.027	1.011	1.003	1.006	0.956	5.69
33) tert-butyl ethyl ether										
	0.163	0.263	0.287	0.630	0.533	0.525			0.400	46.60
---- Linear regression ---- Coefficient = 0.9949										
Response Ratio = -0.01422 + 0.53776 *A										
34) isobutyl alcohol										
	0.008	0.009	0.016	0.013	0.017	0.022			0.014#	38.20
---- Quadratic regression ---- Coefficient = 0.9971										
Response Ratio = -0.00173 + 0.01191 *A + 0.00052 *A^2										
35) 2,2-dichloropropane										
	0.488	0.591	0.651	0.671	0.636	0.646	0.725	0.682	0.636	11.20
36) cis-1,2-dichloroethene										
	0.641	0.544	0.569	0.613	0.562	0.563	0.552	0.565	0.543	5.77
37) ethyl acetate										
									0.000#	-1.00
38) bromochloromethane										
	0.273	0.274	0.316	0.290	0.295	0.286	0.251	0.234	0.277	9.28
39) chloroform										
	1.078	0.933	0.938	1.122	0.989	0.983	0.947	0.937	0.846	8.46
40) dibromofluoromethane (s)										
	0.514	0.521	0.522	0.538	0.524	0.522	0.523	0.522	0.519	1.18
41) Tetrahydrofuran										
	0.138	0.149	0.139	0.139	0.137	0.147	0.148	0.143		3.57
42) 1,1,1-trichloroethane										
	0.803	0.668	0.759	0.936	0.790	0.812	0.791	0.842	0.795	8.81
43) I 1,4-difluorobenzene	-----ISTD-----									
44) Cyclohexane										
	0.369	0.476	0.564	0.479	0.453	0.433	0.506	0.478	0.470	11.95
45) carbon tetrachloride										
	0.465	0.359	0.437	0.526	0.455	0.455	0.425	0.473	0.432	9.94

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICC3649
Lab FileID: N99835.D

46)	1,1-dichloropropene	0.336	0.399	0.467	0.416	0.412	0.396	0.431	0.403	0.408	9.04		
47)	benzene	1.826	1.319	1.167	1.188	1.396	1.280	1.252	1.208	1.209	1.101	1.295	15.75
48)	1,2-dichloroethane	0.489	0.447	0.452	0.519	0.485	0.486	0.462	0.465	0.435	0.471	5.55	
49)	tert-amyl methyl ether										0.000#	-1.00	
	---- Quadratic regression ----	Coefficient = 0.0555											
	Response Ratio = 0.00000 + 0.00000 *A + 0.00000 *A^2												
50)	heptane	0.193	0.214	0.259	0.226	0.207	0.198	0.223	0.206	0.216	9.73		
51)	trichloroethene	0.496	0.346	0.314	0.339	0.394	0.354	0.350	0.339	0.345	0.314	0.359	14.75
52)	1,2-dichloropropane	0.354	0.361	0.411	0.395	0.380	0.370	0.366	0.323	0.370	7.13		
53)	dibromomethane	0.204	0.205	0.233	0.222	0.216	0.214	0.215	0.201	0.214	4.91		
54)	bromodichloromethane	0.512	0.464	0.457	0.550	0.518	0.508	0.500	0.501	0.465	0.497	6.11	
55)	Methylcyclohexane	0.269	0.329	0.393	0.341	0.315	0.308	0.363	0.347	0.333	11.24		
56)	2-chloroethyl vinyl ether										0.000#	-1.00	
57)	methyl methacrylate	0.159	0.148	0.178	0.173	0.178	0.174	0.179	0.173	0.170	6.41		
58)	1,4-dioxane			0.003	0.003	0.003	0.003	0.003	0.003	0.003#	5.89		
59)	cis-1,3-dichloropropene	0.722	0.519	0.458	0.474	0.559	0.540	0.545	0.534	0.537	0.509	0.540	13.24
60)	toluene-d8 (s)	1.257	1.244	1.235	1.232	1.221	1.252	1.231	1.207	1.217	1.202	1.230	1.47
61)	4-methyl-2-pentanone		0.311	0.353	0.336	0.318	0.306	0.303	0.284	0.316	7.24		
62)	toluene	0.919	0.754	0.774	0.889	0.822	0.781	0.754	0.741	0.658	0.788	10.05	
63)	trans-1,3-dichloropropene	0.539	0.432	0.373	0.394	0.457	0.463	0.474	0.464	0.488	0.462	0.455	10.26
64)	1,1,2-trichloroethane	0.254	0.235	0.232	0.263	0.254	0.256	0.245	0.254	0.239	0.248	4.35	
65)	ethyl methacrylate		0.328	0.375	0.369	0.350	0.330	0.321	0.284	0.337	9.20		
66)	I chlorobenzene-d5	-----ISTD-----											
67)	tetrachloroethene	1.058	0.725	0.550	0.617	0.734	0.630	0.622	0.593	0.687	0.627	0.684	20.95
	---- Linear regression ----	Coefficient = 0.9971											
	Response Ratio = 0.00241 + 0.63720 *A												
68)	1,3-dichloropropane	0.798	0.790	0.914	0.836	0.846	0.796	0.863	0.795	0.830	5.28		
69)	dibromochloromethane	0.994	0.751	0.694	0.676	0.804	0.752	0.796	0.741	0.839	0.773	0.782	11.41
70)	1,2-dibromoethane	0.572	0.531	0.525	0.625	0.576	0.608	0.574	0.647	0.610	0.585	7.00	
71)	2-hexanone			0.539	0.476	0.482	0.431	0.441	0.396	0.461	10.77		
72)	chlorobenzene	2.073	1.750	1.708	1.992	1.805	1.731	1.663	1.783	1.590	1.788	8.60	

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICC3649
Lab FileID: N99835.D

73)	1,1,1,2-tetrachloroethane	0.742	0.626	0.635	0.747	0.687	0.693	0.647	0.701	0.647	0.681	6.63	
74)	ethylbenzene	4.555	3.269	2.704	2.800	3.364	2.948	2.862	2.676	2.918	2.560	3.066	18.94
75)	m,p-xylene	1.733	1.233	1.070	1.084	1.286	1.146	1.076	1.006	1.081	0.885	1.160	19.84
76)	o-xylene	1.782	1.274	1.129	1.124	1.305	1.177	1.130	1.050	1.145	0.973	1.209	18.45
77)	styrene	1.849	1.795	2.223	1.974	1.978	1.796	1.984	1.794	1.924		7.71	
78)	bromoform	0.440	0.407	0.423	0.505	0.479	0.512	0.499	0.577	0.556	0.489	11.83	
79)	trans-1,4-dichloro-2-butene	0.138	0.166	0.186	0.208	0.201	0.243	0.235	0.197			18.83	
80) I	1,4-dichlorobenzene-d -----ISTD-----												
81)	isopropylbenzene	2.314	2.434	3.009	2.665	2.423	2.452	2.550	2.581	2.554		8.37	
82)	bromofluorobenzene (s)	0.922	0.922	0.911	0.888	0.920	0.915	0.885	0.886	0.906	1.036	0.919	4.75
83)	bromobenzene	0.829	0.819	0.983	0.892	0.841	0.853	0.887	0.929	0.879		6.35	
84)	1,1,2,2-tetrachloroethane	0.931	0.727	0.627	0.594	0.692	0.647	0.634	0.615	0.629	0.623	0.672	14.73
85)	1,2,3-trichloropropane	0.491	0.508	0.602	0.600	0.603	0.618	0.685	0.756	0.608		14.10	
86)	n-propylbenzene	2.791	2.975	3.586	3.112	2.822	2.913	3.008	3.021	3.028		8.22	
87)	2-chlorotoluene	1.985	1.961	2.349	2.046	1.909	1.927	1.942	2.003	2.015		7.04	
88)	4-chlorotoluene	2.057	2.048	2.438	2.222	2.028	2.031	2.080	2.081	2.123		6.67	
89)	1,3,5-trimethylbenzene	2.478	1.938	2.004	2.415	2.170	1.944	2.018	2.101	2.086	2.128		9.19
90)	tert-butylbenzene	1.048	1.119	1.387	1.239	1.088	1.135	1.196	1.183	1.174		8.99	
91)	1,2,4-trimethylbenzene	2.728	2.163	2.054	2.499	2.240	2.076	2.135	2.173	2.096	2.241		10.09
92)	sec-butylbenzene	2.087	2.283	2.809	2.418	2.157	2.246	2.377	2.297	2.334		9.42	
93)	1,3-dichlorobenzene	1.848	1.358	1.296	1.555	1.435	1.325	1.342	1.367	1.333	1.429		12.26
94)	p-isopropyltoluene	1.818	1.890	2.298	2.048	1.816	1.859	1.910	1.676	1.914		9.76	
95)	1,4-dichlorobenzene	1.887	1.499	1.352	1.578	1.446	1.325	1.324	1.293	1.139	1.427		15.01
96)	1,2-dichlorobenzene	1.635	1.284	1.235	1.478	1.371	1.295	1.315	1.314	1.244	1.352		9.50
97)	n-butylbenzene	1.564	1.605	1.897	1.679	1.520	1.584	1.649	1.548	1.631		7.33	
98)	1,2-dibromo-3-chloropropane	0.112	0.098	0.111	0.105	0.112	0.114	0.117	0.121	0.111		6.42	
99)	1,2,4-trichlorobenzene	0.574	0.466	0.522	0.479	0.440	0.465	0.487	0.502	0.492		8.43	
100)	1,3,5-trichlorobenzene	0.741	0.607	0.713	0.629	0.573	0.604	0.619	0.622	0.639		9.00	
101)	hexachlorobutadiene	0.236	0.235	0.279	0.246	0.214	0.217	0.237	0.235	0.237		8.46	
102)	naphthalene	1.058	1.255	1.203	1.190	1.170	1.177	1.218	1.182			5.21	

Initial Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICC3649
Lab FileID: N99835.D

103)	1,2,3-trichlorobenzene	0.368	0.419	0.374	0.358	0.369	0.393	0.417	0.385	6.41
104)	2-methylnaphthalene	0.103	0.140	0.178	0.239	0.305	0.298	0.211		39.88
	---- Linear regression ----	Coefficient = 0.9908								
	Response Ratio =	-0.02877 + 0.30044 *A								
105)	1-methylnaphthalene	0.083	0.114	0.121	0.159	0.204	0.192	0.146		32.54
	---- Linear regression ----	Coefficient = 0.9906								
	Response Ratio =	-0.01589 + 0.19528 *A								

(#) = Out of Range ### Number of calibration levels exceeded format ###

n160218w.m Fri Feb 19 11:08:00 2016

6.9.7
6

Initial Calibration Verification

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3649-ICV3649
Lab FileID: N99841.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\N160218\N99841.D Vial: 28
Acq On : 18 Feb 2016 5:22 pm Operator: jent
Sample : icv3649-50 Inst : MSN
Misc : MS36120,MSN3649,,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\n160218w.m (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Feb 19 08:38:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1 I	tert butyl alcohol-d9	500.000	500.000	0.0	102	0.00	6.75
2 P	tertiary butyl alcohol	500.000	500.359	-0.1	99	0.00	6.83
3 p	Ethanol	5000.000	3849.842	23.0	77	0.00	5.65
4 I	pentafluorobenzene	50.000	50.000	0.0	111	0.00	9.13
5 p	dichlorodifluoromethane	50.000	42.907	14.2	96	0.00	4.49
6 P	chloromethane	50.000	47.981	4.0	108	0.00	4.75
7 p	vinyl chloride	50.000	52.042	-4.1	115	0.00	4.99
8 p	bromomethane	50.000	47.615	4.8	105	0.00	5.48
9 p	chloroethane	50.000	58.230	-16.5	128	0.00	5.65
10 p	ethyl ether	50.000	50.972	-1.9	111	0.00	6.50
11 p	acetonitrile	50.000	60.662	-21.3	142	0.01	6.30
12 p	trichlorofluoromethane	50.000	47.364	5.3	105	0.00	6.27
13 p	freon-113	50.000	44.533	10.9	101	0.00	7.02
14 p	acrolein	250.000	304.554	-21.8	128	0.00	6.27
15 p	1,1-dichloroethene	50.000	46.918	6.2	108	0.00	6.84
16 p	acetone	50.000	65.481	-31.0#	122	0.00	6.40
17 M	Methyl Acetate	50.000	65.674	-31.3#	139	0.00	7.01
18 p	methylene chloride	50.000	49.734	0.5	114	0.00	6.99
19 p	methyl tert butyl ether	50.000	59.800	-19.6	123	0.00	7.74
20 p	acrylonitrile	50.000	52.026	-4.1	113	0.00	6.90
21 p	allyl chloride	50.000	53.785	-7.6	112	0.00	7.08
22 p	trans-1,2-dichloroethene	50.000	46.291	7.4	105	0.00	7.66
23 p	iodomethane	50.000	48.415	3.2	112	0.00	6.91
24 p	carbon disulfide	50.000	42.160	15.7	94	0.00	7.27
25 p	propionitrile	50.000	52.551	-5.1	115	0.00	7.93
26 p	vinyl acetate	50.000	52.495	-5.0	112	0.00	8.00
27 p	chloroprene	50.000	48.021	4.0	103	0.00	8.26
28 p	di-isopropyl ether	50.000	52.608	-5.2	114	0.00	8.29
29 p	methacrylonitrile	50.000	49.845	0.3	111	0.00	8.42
30 p	2-butanone	50.000	60.061	-20.1	136	0.00	8.31
31 p	Hexane	50.000	46.771	6.5	106	0.00	8.28
32 P	1,1-dichloroethane	50.000	47.852	4.3	107	0.00	7.91
33 p	tert-butyl ethyl ether	50.000	79.578	-59.2#	174	0.00	8.68

Initial Calibration Verification

Job Number: MC44517

Sample: MSN3649-ICV3649

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: N99841.D

Project: River Forest, 7613 Lake Street, River Forest, IL

		Amount	Calc.	%Drift			
34 p	isobutyl alcohol	250.000	319.698	-27.9	158	0.00	8.68
		Amount	Calc.	%Drift			
35 p	2,2-dichloropropane	50.000	47.404	5.2	105	0.00	8.75
36 p	cis-1,2-dichloroethene	50.000	52.150	-4.3	117	0.00	8.47
37 p	ethyl acetate	50.000	0.000	100.0#	0	0.00	8.68
38 p	bromochloromethane	50.000	55.006	-10.0	114	0.00	8.63
39 p	chloroform	50.000	48.535	2.9	106	0.00	8.67
40 S	dibromofluoromethane (s)	50.000	48.204	3.6	106	0.00	8.79
41 p	Tetrahydrofuran	50.000	47.041	5.9	106	0.00	8.99
42 p	1,1,1-trichloroethane	50.000	48.889	2.2	106	0.00	9.40
43 I	1,4-difluorobenzene	50.000	50.000	0.0	110	0.00	9.99
44 p	Cyclohexane	50.000	46.112	7.8	106	0.00	9.68
45 p	carbon tetrachloride	50.000	48.301	3.4	105	0.00	9.76
46 p	1,1-dichloropropene	50.000	49.275	1.5	107	0.00	9.57
47 p	benzene	50.000	48.697	2.6	111	0.00	9.80
48 p	1,2-dichloroethane	50.000	49.576	0.8	106	0.00	9.31
		Amount	Calc.	%Drift			
49 p	tert-amyl methyl ether	50.000	0.000	100.0#	0	0.00	9.91
		Amount	Calc.	%Drift			
50 p	heptane	50.000	46.260	7.5	106	0.00	10.25
51 p	trichloroethene	50.000	48.778	2.4	110	0.00	10.41
52 p	1,2-dichloropropane	50.000	53.711	-7.4	115	0.00	10.38
53 p	dibromomethane	50.000	51.531	-3.1	112	0.00	10.35
54 p	bromodichloromethane	50.000	49.855	0.3	108	0.00	10.46
55 p	Methylcyclohexane	50.000	46.720	6.6	109	0.00	10.91
56 p	2-chloroethyl vinyl ether	50.000	0.000	100.0#	0	0.00	10.38
57 p	methyl methacrylate	50.000	54.380	-8.8	115	0.00	10.54
58 p	1,4-dioxane	250.000	244.687	2.1	108	0.00	10.56
59 p	cis-1,3-dichloropropene	50.000	50.175	-0.3	110	0.00	11.07
60 S	toluene-d8 (s)	50.000	49.330	1.3	109	0.00	11.77
61 p	4-methyl-2-pentanone	50.000	51.421	-2.8	113	0.00	11.15
62 p	toluene	50.000	51.251	-2.5	114	0.00	11.84
63 p	trans-1,3-dichloropropene	50.000	49.322	1.4	104	0.00	11.48
64 p	1,1,2-trichloroethane	50.000	52.828	-5.7	113	0.00	11.66
65 p	ethyl methacrylate	50.000	53.216	-6.4	113	0.00	11.85
66 I	chlorobenzene-d5	50.000	50.000	0.0	109	0.00	13.22
67 p	tetrachloroethene	50.000	50.539	-1.1	113	0.00	12.57
68 p	1,3-dichloropropane	50.000	54.889	-9.8	117	0.00	11.89
69 p	dibromochloromethane	50.000	50.244	-0.5	107	0.00	12.18
70 p	1,2-dibromoethane	50.000	53.361	-6.7	112	0.00	12.43
71 p	2-hexanone	50.000	58.584	-17.2	122	0.00	12.00
72 P	chlorobenzene	50.000	51.098	-2.2	115	0.00	13.25
73 p	1,1,1,2-tetrachloroethane	50.000	51.568	-3.1	110	0.00	13.17
74 p	ethylbenzene	50.000	48.853	2.3	114	0.00	13.42
75 p	m,p-xylene	100.000	97.385	2.6	114	0.00	13.60
76 p	o-xylene	50.000	47.509	5.0	111	0.00	14.02
77 p	styrene	50.000	51.818	-3.6	110	0.00	13.94
78 P	bromoform	50.000	52.459	-4.9	109	0.00	13.77
79 p	trans-1,4-dichloro-2-bute	50.000	50.761	-1.5	104	0.00	13.85
80 I	1,4-dichlorobenzene-d4	50.000	50.000	0.0	108	0.00	15.76
81 p	isopropylbenzene	50.000	49.233	1.5	112	0.00	14.38
82 S	bromofluorobenzene (s)	50.000	46.660	6.7	104	0.00	14.44

Initial Calibration Verification

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Job Number: MC44517

Sample: MSN3649-ICV3649

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: N99841.D

Project: River Forest, 7613 Lake Street, River Forest, IL

83	p	bromobenzene	50.000	51.647	-3.3	116	0.00	14.67
84	P	1,1,2,2-tetrachloroethane	50.000	50.630	-1.3	115	0.00	14.02
85	p	1,2,3-trichloropropane	50.000	51.274	-2.5	111	0.00	14.17
86	p	n-propylbenzene	50.000	48.071	3.9	111	0.00	14.82
87	p	2-chlorotoluene	50.000	49.220	1.6	112	0.00	14.94
88	p	4-chlorotoluene	50.000	50.060	-0.1	113	0.00	15.02
89	p	1,3,5-trimethylbenzene	50.000	49.989	0.0	118	0.00	15.09
90	p	tert-butylbenzene	50.000	47.989	4.0	111	0.00	15.40
91	p	1,2,4-trimethylbenzene	50.000	48.161	3.7	112	0.00	15.50
92	M	sec-butylbenzene	50.000	47.935	4.1	112	0.00	15.62
93	p	1,3-dichlorobenzene	50.000	49.906	0.2	116	0.00	15.73
94	p	p-isopropyltoluene	50.000	50.192	-0.4	114	0.00	15.79
95	p	1,4-dichlorobenzene	50.000	50.473	-0.9	117	0.00	15.79
96	p	1,2-dichlorobenzene	50.000	51.141	-2.3	115	0.00	16.16
97	p	n-butylbenzene	50.000	49.431	1.1	114	0.00	16.21
98	p	1,2-dibromo-3-chloropropa	50.000	47.597	4.8	102	0.00	16.64
99	p	1,2,4-trichlorobenzene	50.000	54.657	-9.3	131	0.00	17.99
100	p	1,3,5-trichlorobenzene	50.000	50.681	-1.4	121	0.00	17.44
101	p	hexachlorobutadiene	50.000	52.737	-5.5	126	0.00	18.27
102	p	naphthalene	50.000	50.781	-1.6	108	0.00	18.26
103	p	1,2,3-trichlorobenzene	50.000	55.004	-10.0	127	0.00	18.46
104	p	2-methylnaphthalene	25.000	29.911	-19.6	183	0.00	19.64
105	p	1-methylnaphthalene	25.000	32.213	-28.9	196	0.00	19.88

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

N99835.D n160218w.m

Fri Feb 19 11:07:57 2016

Continuing Calibration Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3656-CC3649
Lab FileID: N99998.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\N160226\N99998.D Vial: 18
Acq On : 26 Feb 2016 9:34 am Operator: carab
Sample : cc3649-50 Inst : MSN
Misc : MS36156,MSN3656,,,,5,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\msdchem\1\methods\n160218w.m (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Fri Feb 19 08:38:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	tert butyl alcohol-d9	1.000	1.000	0.0	68	0.00	6.75
2 P	tertiary butyl alcohol	1.955	2.385	-22.0#	81	0.00	6.83
3 p	Ethanol	0.360	0.388	-7.8	72	0.00	5.66
4 I	pentafluorobenzene	1.000	1.000	0.0	91	0.00	9.13
5 p	dichlorodifluoromethane	0.502	0.518	-3.2	96	0.00	4.49
6 P	chloromethane	0.548	0.657	-19.9	112	0.00	4.75
7 p	vinyl chloride	0.455	0.553	-21.5#	111	0.00	4.99
	----- Amount	Calc.	%Drift	-----			
8 p	bromomethane	50.000	51.387	-2.8	95	0.00	5.48
	----- AvgRF	CCRF	%Dev	-----			
9 p	chloroethane	0.260	0.319	-22.7#	112	0.00	5.64
10 p	ethyl ether	0.400	0.402	-0.5	90	0.00	6.50
11 p	acetonitrile	0.062	0.074	-19.4	116	0.01	6.30
12 p	trichlorofluoromethane	0.676	0.836	-23.7#	113	0.00	6.27
13 p	freon-113	0.386	0.407	-5.4	99	0.00	7.02
14 p	acrolein	0.051	0.062	-21.6#	106	0.00	6.27
15 p	1,1-dichloroethene	0.434	0.420	3.2	92	0.00	6.84
	----- Amount	Calc.	%Drift	-----			
16 p	acetone	50.000	75.614	-51.2#	115	0.00	6.39
	----- AvgRF	CCRF	%Dev	-----			
17 M	Methyl Acetate	0.356	0.486	-36.5#	119	0.00	7.01
18 p	methylene chloride	0.558	0.524	6.1	89	0.00	6.99
19 p	methyl tert butyl ether	0.847	0.852	-0.6	86	0.00	7.74
20 p	acrylonitrile	0.176	0.186	-5.7	95	0.00	6.90
21 p	allyl chloride	0.813	0.897	-10.3	95	0.00	7.08
22 p	trans-1,2-dichloroethene	0.498	0.454	8.8	85	0.00	7.66
	----- Amount	Calc.	%Drift	-----			
23 p	iodomethane	50.000	51.733	-3.5	100	0.00	6.91
	----- AvgRF	CCRF	%Dev	-----			
24 p	carbon disulfide	1.662	1.403	15.6	78	0.00	7.27
25 p	propionitrile	0.069	0.075	-8.7	98	0.00	7.93
26 p	vinyl acetate	0.987	1.087	-10.1	97	0.00	8.00
27 p	chloroprene	0.816	0.870	-6.6	95	0.00	8.26
28 p	di-isopropyl ether	1.823	1.893	-3.8	93	0.00	8.29
29 p	methacrylonitrile	0.308	0.329	-6.8	99	0.00	8.42

Continuing Calibration Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3656-CC3649
Lab FileID: N99998.D

30	p	2-butanone	0.050	0.068#	-36.0#	128	0.00	8.31
31	p	Hexane	0.617	0.700	-13.5	107	0.00	8.28
32	P	1,1-dichloroethane	1.019	0.959	5.9	87	0.00	7.91
			----- Amount	Calc.	%Drift	-----		
33	p	tert-butyl ethyl ether	50.000	35.984	28.0#	64	0.00	8.68
34	p	isobutyl alcohol	250.000	189.200	24.3#	69	0.01	8.69
			----- AvgRF	CCRF	%Dev	-----		
35	p	2,2-dichloropropane	0.636	0.745	-17.1	107	0.00	8.75
36	p	cis-1,2-dichloroethene	0.572	0.560	2.1	91	0.00	8.47
37	p	ethyl acetate	-----NA-----					
38	p	bromochloromethane	0.277	0.298	-7.6	92	0.00	8.63
39	p	chloroform	0.975	0.974	0.1	91	0.00	8.67
40	S	dibromofluoromethane (s)	0.522	0.527	-1.0	92	0.00	8.79
41	p	Tetrahydrofuran	0.143	0.142	0.7	93	0.00	8.99
42	p	1,1,1-trichloroethane	0.799	0.870	-8.9	98	0.00	9.41
43	I	1,4-difluorobenzene	1.000	1.000	0.0	90	0.00	9.99
44	p	Cyclohexane	0.470	0.519	-10.4	103	0.00	9.68
45	p	carbon tetrachloride	0.447	0.519	-16.1	102	0.00	9.76
46	p	1,1-dichloropropene	0.408	0.442	-8.3	96	0.00	9.57
47	p	benzene	1.295	1.266	2.2	91	0.00	9.80
48	p	1,2-dichloroethane	0.471	0.514	-9.1	95	0.00	9.31
			----- Amount	Calc.	%Drift	-----		
49	p	tert-amyl methyl ether	-----NA-----					
			----- AvgRF	CCRF	%Dev	-----		
50	p	heptane	0.216	0.280	-29.6#	121	0.00	10.25
51	p	trichloroethene	0.359	0.365	-1.7	93	0.00	10.41
52	p	1,2-dichloropropane	0.370	0.385	-4.1	91	0.00	10.38
53	p	dibromomethane	0.214	0.233	-8.9	96	0.00	10.35
54	p	bromodichloromethane	0.497	0.516	-3.8	91	0.00	10.46
55	p	Methylcyclohexane	0.333	0.400	-20.1#	114	0.00	10.91
56	p	2-chloroethyl vinyl ether	-----NA-----					
57	p	methyl methacrylate	0.170	0.185	-8.8	93	0.00	10.55
58	p	1,4-dioxane	0.003	0.003#	0.0	91	0.00	10.56
59	p	cis-1,3-dichloropropene	0.540	0.550	-1.9	90	0.00	11.07
60	S	toluene-d8 (s)	1.230	1.247	-1.4	91	0.00	11.77
61	p	4-methyl-2-pentanone	0.316	0.359	-13.6	101	0.00	11.15
62	p	toluene	0.788	0.806	-2.3	92	0.00	11.84
63	p	trans-1,3-dichloropropene	0.455	0.484	-6.4	91	0.00	11.48
64	p	1,1,2-trichloroethane	0.248	0.267	-7.7	93	0.00	11.66
65	p	ethyl methacrylate	0.337	0.366	-8.6	94	0.00	11.85
66	I	chlorobenzene-d5	1.000	1.000	0.0	95	0.00	13.22
			----- Amount	Calc.	%Drift	-----		
67	p	tetrachloroethene	50.000	52.980	-6.0	103	0.00	12.58
			----- AvgRF	CCRF	%Dev	-----		
68	p	1,3-dichloropropane	0.830	0.870	-4.8	98	0.00	11.89
69	p	dibromochloromethane	0.782	0.780	0.3	93	0.00	12.18
70	p	1,2-dibromoethane	0.585	0.601	-2.7	94	0.00	12.43
71	p	2-hexanone	0.461	0.632	-37.1#	125	0.00	12.00
72	P	chlorobenzene	1.788	1.722	3.7	94	0.00	13.25
73	p	1,1,1,2-tetrachloroethane	0.681	0.685	-0.6	94	0.00	13.17
74	p	ethylbenzene	3.066	2.950	3.8	98	0.00	13.42
75	p	m,p-xylene	1.160	1.113	4.1	98	0.00	13.61

Continuing Calibration Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSN3656-CC3649
Lab FileID: N99998.D

76 p	o-xylene	1.209	1.114	7.9	94	0.00	14.02
77 p	styrene	1.924	1.864	3.1	89	0.00	13.94
78 P	bromoform	0.489	0.527	-7.8	98	0.00	13.78
79 p	trans-1,4-dichloro-2-bute	0.197	0.236	-19.8	108	0.00	13.85
80 I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	92	0.00	15.77
81 p	isopropylbenzene	2.554	2.724	-6.7	103	0.00	14.38
82 S	bromofluorobenzene (s)	0.919	0.878	4.5	91	0.00	14.44
83 p	bromobenzene	0.879	0.890	-1.3	97	0.00	14.67
84 P	1,1,2,2-tetrachloroethane	0.672	0.687	-2.2	100	0.00	14.02
85 p	1,2,3-trichloropropane	0.608	0.660	-8.6	101	0.00	14.17
86 p	n-propylbenzene	3.028	3.193	-5.4	104	0.00	14.82
87 p	2-chlorotoluene	2.015	2.042	-1.3	98	0.00	14.94
88 p	4-chlorotoluene	2.123	2.244	-5.7	102	0.00	15.02
89 p	1,3,5-trimethylbenzene	2.128	2.370	-11.4	112	0.00	15.10
90 p	tert-butylbenzene	1.174	1.356	-15.5	115	0.00	15.40
91 p	1,2,4-trimethylbenzene	2.241	2.391	-6.7	106	0.00	15.51
92 M	sec-butylbenzene	2.334	2.709	-16.1	116	0.00	15.62
93 p	1,3-dichlorobenzene	1.429	1.514	-5.9	105	0.00	15.73
94 p	p-isopropyltoluene	1.914	2.316	-21.0#	117	0.00	15.79
95 p	1,4-dichlorobenzene	1.427	1.504	-5.4	104	0.00	15.80
96 p	1,2-dichlorobenzene	1.352	1.492	-10.4	106	0.00	16.16
97 p	n-butylbenzene	1.631	2.048	-25.6#	124	0.00	16.21
98 p	1,2-dibromo-3-chloropropa	0.111	0.123	-10.8	102	0.00	16.64
99 p	1,2,4-trichlorobenzene	0.492	0.565	-14.8	118	0.00	17.99
100 p	1,3,5-trichlorobenzene	0.639	0.705	-10.3	113	0.00	17.45
101 p	hexachlorobutadiene	0.237	0.319	-34.6#	137	0.00	18.27
102 p	naphthalene	1.182	1.282	-8.5	99	0.00	18.26
103 p	1,2,3-trichlorobenzene	0.385	0.458	-19.0	118	0.00	18.46
----- Amount Calc. %Drift -----							
104 p	2-methylnaphthalene	25.000	27.434	-9.7	141	0.00	19.64
105 p	1-methylnaphthalene	25.000	28.181	-12.7	144	0.00	19.89

(#) = Out of Range

N99835.D n160218w.m

SPCC's out = 4 CCC's out = 0

Fri Feb 26 15:47:34 2016

Initial Calibration Summary

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Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1661-ICC1661
Lab FileID: V45595.D

Response Factor Report MSV

Method : C:\msdchem\1\METHODS\V160227S.M (RTE Integrator)
Title : SW-846 Method 8260
Last Update : Mon Feb 29 11:19:53 2016
Response via : Initial Calibration

Calibration Files

0.5 =v45590.D 2 =v45591.D 5 =v45592.D 10 =v45593.D
20 =v45594.D 50 =v45595.D 100 =v45596.D 200 =v45597.D
400 =v45598.D = = =

Compound	0.5	2	5	10	20	50	100	200	400	Avg	%RSD
1) Tert butyl alcohol-d9 -----ISTD-----											
2) tertiary butyl alcohol											
	1.567	1.719	1.418	1.367	1.448	1.228	1.374	1.458		1.447	10.08
3) Ethanol											
	0.218	0.176	0.156	0.153	0.137	0.152	0.156			0.164	16.20
4) I pentafluorobenzene -----ISTD-----											
5) dichlorodifluoromethane											
	0.987	1.031	0.844	0.899	0.799	0.996	0.733	0.821		0.889	12.05
6) chloromethane											
	0.723	0.705	0.579	0.609	0.553	0.679	0.513	0.575		0.617	12.41
7) vinyl chloride											
	0.692	0.743	0.612	0.637	0.576	0.700	0.527	0.577		0.633	11.68
8) bromomethane											
	0.846	0.819	0.622	0.585	0.390	0.678	0.511	0.511		0.620	25.28
---- Quadratic regression ---- Coefficient = 0.9927											
Response Ratio = 0.00869 + 0.56375 *A + -0.00696 *A^2											
9) chloroethane											
	0.517	0.527	0.429	0.413	0.329	0.468	0.345	0.375		0.425	17.56
10) dichlorofluoromethane											
	1.632	1.654	1.346	1.376	1.233	1.182	1.195	1.327		1.368	13.43
11) ethyl ether											
	0.411	0.481	0.392	0.386	0.366	0.360	0.363	0.397		0.395	9.93
12) acetonitrile											
	0.244	0.196	0.183	0.169	0.161	0.163	0.179			0.185	15.43
13) trichlorofluoromethane											
	1.149	1.306	1.077	1.119	1.014	1.242	0.941	1.052		1.113	10.71
14) freon-113											
	0.854	0.952	0.786	0.826	0.743	0.706	0.710	0.785		0.795	10.34
15) acrolein											
	0.098	0.074	0.067	0.062	0.077	0.057	0.064			0.071	19.10
16) 1,1-dichloroethene											
	0.640	0.729	0.584	0.594	0.534	0.519	0.529	0.570		0.587	11.89
17) acetone											
	0.109	0.106	0.084	0.070	0.073	0.085				0.088#	18.68
18) Methyl Acetate											
	0.561	0.400	0.361	0.352	0.334	0.341	0.370			0.388	20.42
---- Linear regression ---- Coefficient = 0.9968											
Response Ratio = 0.01304 + 0.35227 *A											
19) methylene chloride											
	0.832	0.827	0.645	0.630	0.563	0.553	0.552	0.605		0.651	17.78
20) methyl tert butyl ether											

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	1.691	1.853	1.498	1.488	1.398	1.378	1.393	1.563	1.533	10.85
21) acrylonitrile	0.226	0.270	0.203	0.194	0.180	0.175	0.179	0.200	0.204	15.51
22) allyl chloride	0.839	0.997	0.794	0.802	0.735	0.710	0.715	0.775	0.796	11.69
23) trans-1,2-dichloroethene	0.698	0.773	0.627	0.628	0.574	0.550	0.558	0.607	0.627	12.08
24) iodomethane	1.335	1.581	1.302	1.312	1.208	1.178	1.206	1.326	1.306	9.72
25) carbon disulfide	2.121	2.422	1.931	1.943	1.793	1.749	1.819	1.990	1.971	11.07
26) propionitrile	0.110	0.079	0.075	0.078	0.067	0.074	0.078		0.080	16.96
27) vinyl acetate	1.139	1.026	0.908	1.003	0.843	1.022	1.011		0.993	9.50
28) chloroprene	0.928	0.977	0.826	0.799	0.781	0.699	0.748	0.788	0.818	11.25
29) di-isopropyl ether	2.201	2.303	1.886	1.827	1.740	1.661	1.688	1.806	1.889	12.56
30) methacrylonitrile	0.392	0.371	0.294	0.257	0.279	0.232	0.268	0.275	0.296	19.00
31) 2-butanone	0.100	0.076	0.069	0.074	0.053	0.065	0.069		0.072#	19.78
32) Hexane	0.769	0.717	0.608	0.581	0.548	0.495	0.515	0.531	0.596	16.59
33) 1,1-dichloroethane	1.052	1.213	1.011	0.992	0.947	0.888	0.912	0.981	0.999	10.12
34) tert-butyl ethyl ether	1.789	1.993	1.663	1.651	1.581	1.568	1.602	1.806	1.706	8.57
35) isobutyl alcohol									0.000#	-1.00
36) 2,2-dichloropropane	1.125	1.162	0.949	0.966	0.885	0.841	0.857	0.938	0.965	12.31
37) cis-1,2-dichloroethene	0.732	0.846	0.693	0.674	0.654	0.609	0.637	0.691	0.692	10.49
38) ethyl acetate									0.000#	-1.00
39) bromochloromethane	0.367	0.419	0.354	0.340	0.338	0.317	0.338	0.368	0.355	8.65
40) chloroform	1.157	1.240	1.062	1.011	1.005	0.921	0.984	1.056	1.055	9.63
41) dibromofluoromethane (s)	0.529	0.498	0.507	0.512	0.494	0.494	0.527	0.531	0.515	3.35
42) Tetrahydrofuran	0.197	0.157	0.164	0.129	0.143	0.149			0.157	14.77
43) 1,1,1-trichloroethane	1.127	1.246	1.040	1.052	0.980	0.913	0.957	1.049	1.045	10.03
44) I 1,4-difluorobenzene	-----ISTD-----									
45) Cyclohexane	0.781	0.827	0.679	0.706	0.624	0.603	0.592	0.678	0.686	12.18
46) carbon tetrachloride	0.602	0.645	0.574	0.598	0.555	0.543	0.553	0.633	0.588	6.46
47) 1,1-dichloropropene	0.483	0.527	0.467	0.445	0.457	0.385	0.422	0.446	0.454	9.22
48) benzene	1.705	1.465	1.581	1.378	1.289	1.340	1.146	1.248	1.385	12.51
49) 1,2-dichloroethane	0.443	0.487	0.442	0.396	0.419	0.361	0.394	0.409	0.419	9.20
50) tert-amyl methyl ether										

Initial Calibration Summary

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	0.938	1.029	0.878	0.884	0.821	0.852	0.840	0.996	0.905	8.34
51) heptane	0.579	0.592	0.498	0.507	0.481	0.429	0.439	0.453	0.497	12.24
52) trichloroethene	0.508	0.415	0.463	0.386	0.364	0.382	0.313	0.353	0.394	15.09
53) 1,2-dichloropropane	0.386	0.418	0.360	0.343	0.354	0.307	0.331	0.345	0.355	9.54
54) dibromomethane	0.264	0.279	0.233	0.217	0.225	0.193	0.218	0.228	0.232	11.81
55) bromodichloromethane	0.489	0.522	0.449	0.424	0.453	0.396	0.455	0.481	0.459	8.54
56) Methylcyclohexane	0.660	0.761	0.639	0.676	0.608	0.590	0.586	0.663	0.648	8.79
57) 2-chloroethyl vinyl ether	0.071	0.051	0.056	0.058	0.067	0.050	0.061		0.059	13.04
58) methyl methacrylate	0.239	0.264	0.210	0.202	0.206	0.187	0.199	0.215	0.215	11.48
59) 1,4-dioxane	0.005	0.004	0.005	0.006	0.005	0.005	0.006		0.005#	13.55
60) cis-1,3-dichloropropene	0.555	0.610	0.506	0.504	0.513	0.462	0.511	0.547	0.526	8.44
61) toluene-d8 (s)	1.013	1.059	1.084	1.028	1.104	1.054	1.113	1.067	1.069	3.24
62) 4-methyl-2-pentanone	0.387	0.403	0.330	0.313	0.313	0.287	0.310	0.333	0.335	11.98
63) toluene	0.953	0.920	1.052	0.846	0.883	0.859	0.756	0.807	0.881	9.76
64) trans-1,3-dichloropropene	0.462	0.522	0.407	0.427	0.437	0.411	0.433	0.498	0.450	9.15
65) 1,1,2-trichloroethane	0.290	0.315	0.243	0.248	0.246	0.227	0.241	0.269	0.260	11.36
66) ethyl methacrylate	0.455	0.468	0.371	0.378	0.376	0.359	0.370	0.423	0.400	10.58
67) I chlorobenzene-d5	-----ISTD-----									
68) tetrachloroethene	1.022	1.039	1.113	0.986	0.929	0.975	0.754	0.895	0.952	11.31
69) 1,3-dichloropropane	1.238	1.319	1.113	1.016	1.082	0.890	1.031	1.026	1.089	12.41
70) dibromochloromethane	0.924	0.997	0.856	0.801	0.915	0.783	0.964	0.999	0.905	9.26
71) 1,2-dibromoethane	0.825	0.913	0.764	0.713	0.771	0.651	0.742	0.791	0.771	10.03
72) 2-hexanone	0.691	0.646	0.611	0.481	0.539	0.551			0.587	13.14
73) chlorobenzene	2.679	2.813	2.447	2.369	2.457	2.035	2.318	2.414	2.442	9.56
74) 1,1,1,2-tetrachloroethane	1.032	1.065	1.028	0.891	1.015	0.817	1.013	0.961	0.978	8.56
75) ethylbenzene	5.044	4.444	4.645	4.059	3.944	4.017	3.289	3.676	4.074	13.64
76) m,p-xylene	1.880	1.770	1.873	1.640	1.577	1.623	1.339	1.508	1.635	11.01
77) o-xylene	1.892	1.821	1.955	1.724	1.650	1.708	1.397	1.607	1.702	10.17
78) styrene	2.745	2.994	2.572	2.505	2.547	2.173	2.392	2.518	2.556	9.42
79) bromoform	0.482	0.532	0.465	0.452	0.510	0.477	0.560	0.661	0.517	13.18
80) cis-1,4-dichloro-2-butene										

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	0.277	0.328	0.290	0.288	0.304	0.279	0.311	0.359	0.305	9.19
81) trans-1,4-dichloro-2-butene	0.311	0.326	0.271	0.254	0.249	0.225	0.240	0.274	0.269	12.95
82) I 1,4-dichlorobenzene-d -----ISTD-----										
83) isopropylbenzene	4.694	4.822	4.227	3.971	4.398	3.342	4.143	3.556	4.144	12.42
84) bromofluorobenzene (s)	0.875	0.903	0.892	0.890	0.893	0.912	0.892	0.912	0.891	1.32
85) bromobenzene	1.122	1.191	1.029	0.982	1.052	0.877	1.001	1.028	1.035	9.04
86) 1,1,2,2-tetrachloroethane	1.081	1.088	0.931	0.848	0.945	0.789	0.936	0.900	0.940	10.98
87) 1,2,3-trichloropropane	0.907	0.853	0.745	0.703	0.764	0.639	0.735	0.718	0.758	11.22
88) n-propylbenzene	5.013	5.388	4.614	4.518	4.775	3.809	4.380	4.051	4.569	11.09
89) 2-chlorotoluene	3.513	3.640	3.140	2.984	3.196	2.547	2.944	2.722	3.086	11.99
90) 4-chlorotoluene	3.001	3.201	2.720	2.615	2.743	2.236	2.516	2.490	2.690	11.27
91) 1,3,5-trimethylbenzene	4.062	4.106	3.493	3.375	3.703	2.887	3.470	3.054	3.519	12.30
92) tert-butylbenzene	2.315	2.342	2.102	1.888	2.152	1.509	1.973	1.646	1.991	15.04
93) 1,2,4-trimethylbenzene	4.177	4.233	3.614	3.499	3.761	3.014	3.502	3.286	3.636	11.44
94) sec-butylbenzene	5.208	5.361	4.699	4.519	4.977	3.804	4.659	4.063	4.661	11.47
95) 1,3-dichlorobenzene	2.176	2.324	1.989	1.885	1.964	1.643	1.840	1.903	1.965	10.60
96) p-isopropyltoluene	4.142	4.529	3.853	3.806	4.128	3.266	3.899	3.622	3.906	9.66
97) 1,4-dichlorobenzene	2.157	2.293	1.986	1.898	1.963	1.627	1.828	1.896	1.956	10.34
98) 1,2-dichlorobenzene	2.214	2.254	2.011	1.883	1.983	1.673	1.881	1.944	1.980	9.45
99) n-butylbenzene	3.839	4.117	3.543	3.479	3.564	2.931	3.267	3.176	3.489	10.75
100) 1,2-dibromo-3-chloropropane	0.202	0.213	0.184	0.164	0.181	0.159	0.189	0.183	0.184	9.69
101) 1,3,5-trichlorobenzene	1.767	1.856	1.593	1.594	1.626	1.357	1.519	1.508	1.603	9.66
102) 1,2,4-trichlorobenzene	1.621	1.717	1.466	1.456	1.502	1.264	1.399	1.313	1.467	10.21
103) hexachlorobutadiene	0.728	0.774	0.657	0.658	0.710	0.565	0.632	0.590	0.664	10.57
104) naphthalene	4.394	4.534	3.940	3.650	3.855	3.319	3.603	3.092	3.798	13.01
105) 1,2,3-trichlorobenzene	1.507	1.677	1.478	1.423	1.480	1.242	1.310	1.082	1.400	13.09
106) 2-methylnaphthalene	2.079	2.386	2.251	2.260	2.583	2.169	2.015	1.477	2.153	15.12
---- Quadratic regression ---- Coefficient = 0.9984										
Response Ratio = -0.01076 + 2.53001 *A + -0.26227 *A^2										
107) 1-methylnaphthalene	1.967	2.138	1.921	1.873	2.084	1.742	1.526	1.047	1.787	19.91
---- Quadratic regression ---- Coefficient = 0.9984										
Response Ratio = -0.00061 + 2.03901 *A + -0.24898 *A^2										

Initial Calibration Summary

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(#) = Out of Range ### Number of calibration levels exceeded format ###

V160227S.M Mon Feb 29 11:27:38 2016

Initial Calibration Verification

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Job Number: MC44517
 Account: TTILC Tetra Tech EM, Inc.
 Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1661-ICV1661
 Lab FileID: V45601.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V160227\v45601.D Vial: 13
 Acq On : 27 Feb 2016 4:38 pm Operator: krystend
 Sample : icv1661-50 Inst : MSV
 Misc : MS36167,MSV1661,5,,,5,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\V160227S.M (RTE Integrator)
 Title : SW-846 Method 8260
 Last Update : Mon Feb 29 11:19:53 2016
 Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	R.T.
1	Tert butyl alcohol-d9	500.000	500.000	0.0	103	0.00	6.90
2 p	tertiary butyl alcohol	500.000	483.849	3.2	99	0.00	7.00
3 p	Ethanol	5000.000	4155.257	16.9	91	0.00	5.79
4 I	pentafluorobenzene	50.000	50.000	0.0	90	0.00	8.96
5 p	dichlorodifluoromethane	50.000	43.189	13.6	86	0.00	3.94
6 p	chloromethane	50.000	54.048	-8.1	108	0.00	4.25
7 p	vinyl chloride	50.000	53.463	-6.9	105	0.00	4.48
8 p	bromomethane	50.000	42.582	14.8	111	0.00	5.06
9 p	chloroethane	50.000	48.387	3.2	112	0.00	5.23
10 p	dichlorofluoromethane	50.000	48.671	2.7	97	0.00	5.53
11 p	ethyl ether	50.000	50.278	-0.6	97	0.00	5.95
12 p	acetonitrile	50.000	52.822	-5.6	104	0.00	6.99
13 p	trichlorofluoromethane	50.000	51.832	-3.7	102	0.00	5.61
14 p	freon-113	50.000	48.667	2.7	93	0.00	6.35
15 p	acrolein	250.000	245.227	1.9	101	0.00	6.17
16 p	1,1-dichloroethene	50.000	49.338	1.3	97	0.00	6.34
17 p	acetone	50.000	49.494	1.0	93	0.00	6.34
18 p	Methyl Acetate	50.000	66.039	-32.1#	122	0.00	6.73
19 p	methylene chloride	50.000	50.063	-0.1	104	0.00	6.96
20 p	methyl tert butyl ether	50.000	52.949	-5.9	104	0.00	7.29
21 p	acrylonitrile	50.000	49.370	1.3	100	0.00	7.22
22 p	allyl chloride	50.000	53.334	-6.7	104	0.00	6.80
23 p	trans-1,2-dichloroethene	50.000	47.099	5.8	92	0.00	7.32
24 p	iodomethane	50.000	49.710	0.6	96	0.00	6.58
25 p	carbon disulfide	50.000	42.082	15.8	83	0.00	6.72
26 p	propionitrile	50.000	47.264	5.5	87	0.00	8.48
27 p	vinyl acetate	50.000	48.199	3.6	86	0.00	7.75
28 p	chloroprene	50.000	46.055	7.9	87	0.00	7.92
29 p	di-isopropyl ether	50.000	50.653	-1.3	99	0.00	7.80
30 p	methacrylonitrile	50.000	45.538	8.9	87	0.00	8.66
31 p	2-butanone	50.000	45.977	8.0	81	0.00	8.41
32 p	Hexane	50.000	43.165	13.7	84	0.00	7.62
33 P	1,1-dichloroethane	50.000	49.379	1.2	93	0.00	7.83
34 p	tert-butyl ethyl ether	50.000	50.070	-0.1	97	0.00	8.22
35 p	isobutyl alcohol		-----NA-----				
36 p	2,2-dichloropropane	50.000	47.596	4.8	93	0.00	8.52
37 p	cis-1,2-dichloroethene	50.000	52.506	-5.0	100	0.00	8.48

Initial Calibration Verification

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Lab FileID: V45601.D

Project: River Forest, 7613 Lake Street, River Forest, IL

38 p	ethyl acetate			-----NA-----			
39 p	bromochloromethane	50.000	50.458	-0.9	95	0.00	8.76
40 p	chloroform	50.000	48.553	2.9	91	0.00	8.83
41 S	dibromofluoromethane (s)	50.000	49.005	2.0	92	0.00	9.01
42 p	Tetrahydrofuran	50.000	49.321	1.4	84	0.00	8.78
43 p	1,1,1-trichloroethane	50.000	51.116	-2.2	98	0.00	9.09
44 I	1,4-difluorobenzene	50.000	50.000	0.0	89	0.00	9.86
45 p	Cyclohexane	50.000	45.639	8.7	90	0.00	9.20
46 p	carbon tetrachloride	50.000	49.790	0.4	94	0.00	9.27
47 p	1,1-dichloropropene	50.000	46.050	7.9	82	0.00	9.24
48 p	benzene	50.000	46.967	6.1	87	0.00	9.48
49 p	1,2-dichloroethane	50.000	48.444	3.1	87	0.00	9.50
50 p	tert-amyl methyl ether	50.000	51.810	-3.6	102	0.00	9.53
51 p	heptane	50.000	46.752	6.5	86	0.00	9.69
52 p	trichloroethene	50.000	45.496	9.0	84	0.00	10.16
53 p	1,2-dichloropropane	50.000	50.489	-1.0	90	0.00	10.45
54 p	dibromomethane	50.000	48.190	3.6	89	0.00	10.56
55 p	bromodichloromethane	50.000	47.508	5.0	86	0.00	10.70
56 p	Methylcyclohexane	50.000	48.531	2.9	92	0.00	10.46
57 p	2-chloroethyl vinyl ether	50.000	54.939	-9.9	100	0.00	10.93
58 p	methyl methacrylate	50.000	47.017	6.0	88	0.00	10.38
59 p	1,4-dioxane	200.000	252.518	-26.3	90	0.00	10.50
60 p	cis-1,3-dichloropropene	50.000	47.693	4.6	87	0.00	11.16
61 S	toluene-d8 (s)	50.000	51.659	-3.3	94	0.00	11.48
62 p	4-methyl-2-pentanone	50.000	49.379	1.2	94	0.00	11.25
63 p	toluene	50.000	49.598	0.8	91	0.00	11.56
64 p	trans-1,3-dichloropropene	50.000	45.394	9.2	83	0.00	11.75
65 p	1,1,2-trichloroethane	50.000	49.083	1.8	93	0.00	11.99
66 p	ethyl methacrylate	50.000	48.774	2.5	93	0.00	11.72
67 I	chlorobenzene-d5	50.000	50.000	0.0	96	0.00	13.10
68 p	tetrachloroethene	50.000	46.659	6.7	88	0.00	12.14
69 p	1,3-dichloropropane	50.000	49.928	0.1	97	0.00	12.18
70 p	dibromochloromethane	50.000	46.869	6.3	89	0.00	12.45
71 p	1,2-dibromoethane	50.000	48.190	3.6	93	0.00	12.62
72 p	2-hexanone	50.000	50.402	-0.8	93	0.00	12.14
73 p	chlorobenzene	50.000	47.845	4.3	92	0.00	13.14
74 p	1,1,1,2-tetrachloroethane	50.000	48.631	2.7	90	0.00	13.21
75 p	ethylbenzene	50.000	47.248	5.5	92	0.00	13.20
76 p	m,p-xylene	100.000	94.870	5.1	92	0.00	13.33
77 p	o-xylene	50.000	47.290	5.4	91	0.00	13.78
78 p	styrene	50.000	46.381	7.2	90	0.00	13.79
79 P	bromoform	50.000	47.303	5.4	93	0.00	14.06
80 p	cis-1,4-dichloro-2-butene	50.000	50.663	-1.3	98	0.00	14.20
81 p	trans-1,4-dichloro-2-bute	50.000	45.320	9.4	94	0.00	14.51
82 I	1,4-dichlorobenzene-d4	50.000	50.000	0.0	104	0.00	15.71
83 p	isopropylbenzene	50.000	46.573	6.9	91	0.00	14.17
84 S	bromofluorobenzene (s)	50.000	48.977	2.0	100	0.00	14.40
85 p	bromobenzene	50.000	48.114	3.8	98	0.00	14.61
86 P	1,1,2,2-tetrachloroethane	50.000	47.230	5.5	98	0.00	14.48
87 p	1,2,3-trichloropropane	50.000	47.676	4.6	98	0.00	14.58
88 p	n-propylbenzene	50.000	45.502	9.0	90	0.00	14.63
89 p	2-chlorotoluene	50.000	46.580	6.8	93	0.00	14.79
90 p	4-chlorotoluene	50.000	46.801	6.4	95	0.00	14.91
91 p	1,3,5-trimethylbenzene	50.000	48.475	3.0	96	0.00	14.81
92 p	tert-butylbenzene	50.000	45.202	9.6	87	0.00	15.19
93 p	1,2,4-trimethylbenzene	50.000	45.685	8.6	92	0.00	15.25
94 p	sec-butylbenzene	50.000	46.289	7.4	90	0.00	15.44

Initial Calibration Verification

Page 3 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1661-ICV1661
Lab FileID: V45601.D

95 p	1,3-dichlorobenzene	50.000	46.829	6.3	97	0.00	15.63
96 p	p-isopropyltoluene	50.000	46.431	7.1	91	0.00	15.59
97 p	1,4-dichlorobenzene	50.000	47.121	5.8	98	0.00	15.74
98 p	1,2-dichlorobenzene	50.000	47.012	6.0	98	0.00	16.16
99 p	n-butylbenzene	50.000	46.582	6.8	95	0.00	16.05
100 p	1,2-dibromo-3-chloropropa	50.000	46.508	7.0	98	0.00	17.01
101 p	1,3,5-trichlorobenzene	50.000	43.333	13.3	89	0.00	17.22
102 p	1,2,4-trichlorobenzene	50.000	46.741	6.5	95	0.00	17.95
103 p	hexachlorobutadiene	50.000	47.106	5.8	92	0.00	18.08
104 p	naphthalene	50.000	45.601	8.8	93	0.00	18.31
105 p	1,2,3-trichlorobenzene	50.000	50.496	-1.0	99	0.00	18.57
		-----	Amount Calc.	%Drift	-----		
106 p	2-methylnaphthalene	25.000	24.130	3.5	92	0.00	19.79
107 p	1-methylnaphthalene	25.000	25.636	-2.5	98	0.00	20.08

(#) = Out of Range SPCC's out = 0 CCC's out = 0
v45595.D V160227S.M Mon Feb 29 11:27:28 2016

6.9.11
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Continuing Calibration Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1665-CC1661
Lab FileID: V45682.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V160301\v45682.D Vial: 28
 Acq On : 2 Mar 2016 3:14 am Operator: krystend
 Sample : ccl661-50 Inst : MSV
 Misc : MS36196,MSV1665,5,,,5,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\V160227S.M (RTE Integrator)
 Title : SW-846 Method 8260
 Last Update : Mon Feb 29 11:19:53 2016
 Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	Tert butyl alcohol-d9	1.000	1.000	0.0	78	0.01	6.91
2 p	tertiary butyl alcohol	1.447	1.442	0.3	77	0.01	7.01
3 p	Ethanol	0.164	0.165	-0.6	83	0.02	5.80
4 I	pentafluorobenzene	1.000	1.000	0.0	74	0.01	8.97
5 p	dichlorodifluoromethane	0.889	0.621	30.1#	58	0.01	3.94
6 p	chloromethane	0.617	0.705	-14.3	95	0.01	4.26
7 p	vinyl chloride	0.633	0.683	-7.9	88	0.01	4.49
----- Amount Calc. %Drift -----							
8 p	bromomethane	50.000	48.953	2.1	105	0.01	5.07
----- AvgRF CCRF %Dev -----							
9 p	chloroethane	0.425	0.459	-8.0	104	0.02	5.24
10 p	dichlorofluoromethane	1.368	1.457	-6.5	88	0.02	5.54
11 p	ethyl ether	0.395	0.425	-7.6	86	0.01	5.97
12 p	acetonitrile	0.185	0.260	-40.5#	114	0.02	7.01
13 p	trichlorofluoromethane	1.113	1.162	-4.4	85	0.02	5.62
14 p	freon-113	0.795	0.763	4.0	76	0.02	6.36
15 p	acrolein	0.071	0.062	12.7	74	0.02	6.18
16 p	1,1-dichloroethene	0.587	0.556	5.3	77	0.02	6.35
17 p	acetone	0.088	0.074#	15.9	65	0.02	6.35
----- Amount Calc. %Drift -----							
18 p	Methyl Acetate	50.000	76.630	-53.3#	117	0.02	6.75
----- AvgRF CCRF %Dev -----							
19 p	methylene chloride	0.651	0.677	-4.0	89	0.02	6.98
20 p	methyl tert butyl ether	1.533	1.648	-7.5	87	0.02	7.30
21 p	acrylonitrile	0.204	0.217	-6.4	89	0.02	7.23
22 p	allyl chloride	0.796	0.822	-3.3	83	0.02	6.82
23 p	trans-1,2-dichloroethene	0.627	0.584	6.9	75	0.02	7.33
24 p	iodomethane	1.306	1.233	5.6	76	0.02	6.59
25 p	carbon disulfide	1.971	1.395	29.2#	58	0.02	6.73
26 p	propionitrile	0.080	0.085	-6.3	81	0.01	8.50
27 p	vinyl acetate	0.993	0.869	12.5	64	0.01	7.77
28 p	chloroprene	0.818	0.766	6.4	73	0.01	7.94
29 p	di-isopropyl ether	1.889	2.045	-8.3	87	0.02	7.81
30 p	methacrylonitrile	0.296	0.292	1.4	78	0.01	8.68
31 p	2-butanone	0.072	0.052#	27.8#	52	0.01	8.42
32 p	Hexane	0.596	0.551	7.6	75	0.01	7.63
33 P	1,1-dichloroethane	0.999	1.049	-5.0	82	0.02	7.85

Continuing Calibration Summary

Page 2 of 3

Job Number: MC44517

Sample: MSV1665-CC1661

Account: TTILC Tetra Tech EM, Inc.

Lab FileID: V45682.D

Project: River Forest, 7613 Lake Street, River Forest, IL

34	p	tert-butyl ethyl ether	1.706	1.738	-1.9	82	0.02	8.24
35	p	isobutyl alcohol	0.000	0.184	0.0	0#	0.00	7.77
36	p	2,2-dichloropropane	0.965	0.838	13.2	70	0.02	8.53
37	p	cis-1,2-dichloroethene	0.692	0.750	-8.4	85	0.01	8.50
38	p	ethyl acetate	0.000	0.371	0.0	0#	0.02	7.30
39	p	bromochloromethane	0.355	0.377	-6.2	83	0.01	8.78
40	p	chloroform	1.055	1.116	-5.8	82	0.01	8.85
41	S	dibromofluoromethane (s)	0.515	0.535	-3.9	80	0.01	9.03
42	p	Tetrahydrofuran	0.157	0.159	-1.3	72	0.00	8.79
43	p	1,1,1-trichloroethane	1.045	1.048	-0.3	79	0.02	9.10
44	I	1,4-difluorobenzene	1.000	1.000	0.0	73	0.01	9.87
45	p	Cyclohexane	0.686	0.634	7.6	75	0.02	9.21
46	p	carbon tetrachloride	0.588	0.546	7.1	72	0.02	9.29
47	p	1,1-dichloropropene	0.454	0.424	6.6	68	0.01	9.25
48	p	benzene	1.385	1.346	2.8	74	0.01	9.49
49	p	1,2-dichloroethane	0.419	0.465	-11.0	81	0.01	9.51
50	p	tert-amyl methyl ether	0.905	0.912	-0.8	81	0.02	9.55
51	p	heptane	0.497	0.452	9.1	69	0.01	9.71
52	p	trichloroethene	0.394	0.354	10.2	68	0.01	10.17
53	p	1,2-dichloropropane	0.355	0.367	-3.4	76	0.01	10.46
54	p	dibromomethane	0.232	0.231	0.4	75	0.01	10.57
55	p	bromodichloromethane	0.459	0.419	8.7	68	0.01	10.72
56	p	Methylcyclohexane	0.648	0.612	5.6	74	0.02	10.47
57	p	2-chloroethyl vinyl ether	0.059	0.060	-1.7	75	0.01	10.94
58	p	methyl methacrylate	0.215	0.198	7.9	70	0.02	10.40
59	p	1,4-dioxane	0.005	0.007#	-40.0#	78	0.01	10.51
60	p	cis-1,3-dichloropropene	0.526	0.474	9.9	68	0.01	11.17
61	S	toluene-d8 (s)	1.069	1.129	-5.6	79	0.02	11.49
62	p	4-methyl-2-pentanone	0.335	0.333	0.6	78	0.01	11.26
63	p	toluene	0.881	0.873	0.9	75	0.01	11.57
64	p	trans-1,3-dichloropropene	0.450	0.391	13.1	66	0.01	11.76
65	p	1,1,2-trichloroethane	0.260	0.273	-5.0	81	0.01	12.00
66	p	ethyl methacrylate	0.400	0.377	5.8	73	0.01	11.73
67	I	chlorobenzene-d5	1.000	1.000	0.0	87	0.02	13.12
68	p	tetrachloroethene	0.952	0.755	20.7#	67	0.01	12.16
69	p	1,3-dichloropropane	1.089	1.082	0.6	87	0.01	12.19
70	p	dibromochloromethane	0.905	0.696	23.1#	66	0.01	12.46
71	p	1,2-dibromoethane	0.771	0.689	10.6	77	0.02	12.64
72	p	2-hexanone	0.587	0.472	19.6	67	0.02	12.16
73	p	chlorobenzene	2.442	2.134	12.6	75	0.02	13.15
74	p	1,1,1,2-tetrachloroethane	0.978	0.799	18.3	68	0.01	13.22
75	p	ethylbenzene	4.074	3.488	14.4	75	0.01	13.21
76	p	m,p-xylene	1.635	1.361	16.8	73	0.01	13.34
77	p	o-xylene	1.702	1.420	16.6	72	0.01	13.79
78	p	styrene	2.556	2.050	19.8	70	0.01	13.80
79	P	bromoform	0.517	0.361	30.2#	61	0.02	14.07
80	p	cis-1,4-dichloro-2-butene	0.305	0.232	23.9#	66	0.01	14.22
81	p	trans-1,4-dichloro-2-bute	0.269	0.206	23.4#	72	0.01	14.52
82	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	84	0.01	15.72
83	p	isopropylbenzene	4.144	3.676	11.3	70	0.01	14.18
84	S	bromofluorobenzene (s)	0.896	0.913	-1.9	84	0.01	14.41
85	p	bromobenzene	1.035	0.985	4.8	79	0.01	14.62
86	P	1,1,2,2-tetrachloroethane	0.940	0.962	-2.3	86	0.01	14.49
87	p	1,2,3-trichloropropane	0.758	0.793	-4.6	87	0.01	14.59
88	p	n-propylbenzene	4.569	3.999	12.5	70	0.01	14.64
89	p	2-chlorotoluene	3.086	2.832	8.2	74	0.01	14.80
90	p	4-chlorotoluene	2.690	2.402	10.7	74	0.01	14.92

6.9.12

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Continuing Calibration Summary

Page 3 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1665-CC1661
Lab FileID: V45682.D

91 p	1,3,5-trimethylbenzene	3.519	3.208	8.8	73	0.01	14.82
92 p	tert-butylbenzene	1.991	1.738	12.7	68	0.01	15.20
93 p	1,2,4-trimethylbenzene	3.636	3.105	14.6	69	0.01	15.26
94 p	sec-butylbenzene	4.661	4.062	12.9	69	0.01	15.45
95 p	1,3-dichlorobenzene	1.965	1.666	15.2	71	0.01	15.65
96 p	p-isopropyltoluene	3.906	3.267	16.4	67	0.01	15.60
97 p	1,4-dichlorobenzene	1.956	1.657	15.3	71	0.01	15.75
98 p	1,2-dichlorobenzene	1.980	1.763	11.0	75	0.01	16.17
99 p	n-butylbenzene	3.489	2.827	19.0	67	0.01	16.06
100 p	1,2-dibromo-3-chloropropa	0.184	0.147	20.1#	68	0.01	17.03
101 p	1,3,5-trichlorobenzene	1.603	1.038	35.2#	54	0.01	17.23
102 p	1,2,4-trichlorobenzene	1.467	1.022	30.3#	57	0.01	17.97
103 p	hexachlorobutadiene	0.664	0.504	24.1#	60	0.01	18.09
104 p	naphthalene	3.798	3.061	19.4	67	0.02	18.32
105 p	1,2,3-trichlorobenzene	1.400	1.158	17.3	66	0.01	18.58

		Amount	Calc.	%Drift	-----		
106 p	2-methylnaphthalene	25.000	17.682	29.3#	55	0.02	19.81
107 p	1-methylnaphthalene	25.000	20.457	18.2	64	0.02	20.09

(#) = Out of Range

v45595.D V160227S.M

SPCC's out = 3 CCC's out = 0

Wed Mar 02 09:31:51 2016

6.9.12
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Continuing Calibration Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1666-CC1661
Lab FileID: V45707.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\V160302\v45707.D Vial: 2
 Acq On : 2 Mar 2016 3:25 pm Operator: krystend
 Sample : ccl661-50 Inst : MSV
 Misc : MS36196,MSV1666,5,,,5,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\METHODS\V160227S.M (RTE Integrator)
 Title : SW-846 Method 8260
 Last Update : Wed Mar 02 14:48:41 2016
 Response via : Single Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	Tert butyl alcohol-d9	1.000	1.000	0.0	68	0.00	6.91
2 p	tertiary butyl alcohol	1.447	1.449	-0.1	68	0.00	7.01
3 p	Ethanol	0.164	0.187	-14.0	83	0.00	5.80
4 I	pentafluorobenzene	1.000	1.000	0.0	76	0.00	8.97
5 p	dichlorodifluoromethane	0.889	0.585	34.2#	56	0.00	3.94
6 p	chloromethane	0.617	0.585	5.2	81	0.00	4.26
7 p	vinyl chloride	0.633	0.595	6.0	79	0.00	4.49
----- Amount Calc. %Drift -----							
8 p	bromomethane	50.000	43.220	13.6	96	0.00	5.07
----- AvgRF CCRF %Dev -----							
9 p	chloroethane	0.425	0.395	7.1	91	0.00	5.23
10 p	dichlorofluoromethane	1.368	1.462	-6.9	90	0.00	5.54
11 p	ethyl ether	0.395	0.412	-4.3	86	0.00	5.97
12 p	acetonitrile	0.185	0.245	-32.4#	110	0.00	7.01
13 p	trichlorofluoromethane	1.113	1.082	2.8	81	0.00	5.62
14 p	freon-113	0.795	0.792	0.4	81	0.00	6.36
15 p	acrolein	0.071	0.064	9.9	78	0.00	6.18
16 p	1,1-dichloroethene	0.587	0.548	6.6	78	0.00	6.35
17 p	acetone	0.088	0.096#	-9.1	87	0.00	6.35
----- Amount Calc. %Drift -----							
18 p	Methyl Acetate	50.000	56.467	-12.9	89	0.00	6.75
----- AvgRF CCRF %Dev -----							
19 p	methylene chloride	0.651	0.645	0.9	87	0.00	6.97
20 p	methyl tert butyl ether	1.533	1.447	5.6	79	0.00	7.30
21 p	acrylonitrile	0.204	0.205	-0.5	86	0.00	7.23
22 p	allyl chloride	0.796	0.768	3.5	79	0.00	6.81
23 p	trans-1,2-dichloroethene	0.627	0.615	1.9	81	0.00	7.33
24 p	iodomethane	1.306	1.187	9.1	75	0.00	6.59
25 p	carbon disulfide	1.971	1.531	22.3#	65	0.00	6.73
26 p	propionitrile	0.080	0.083	-3.8	81	0.00	8.50
27 p	vinyl acetate	0.993	1.002	-0.9	76	0.00	7.77
28 p	chloroprene	0.818	0.827	-1.1	81	0.00	7.94
29 p	di-isopropyl ether	1.889	1.976	-4.6	86	0.00	7.81
30 p	methacrylonitrile	0.296	0.305	-3.0	83	0.00	8.68
31 p	2-butanone	0.072	0.065#	9.7	67	0.00	8.42
32 p	Hexane	0.596	0.628	-5.4	87	0.00	7.63
33 P	1,1-dichloroethane	0.999	1.067	-6.8	86	0.00	7.85

Continuing Calibration Summary

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1666-CC1661
Lab FileID: V45707.D

34	p	tert-butyl ethyl ether	1.706	1.643	3.7	79	0.00	8.23
35	p	isobutyl alcohol	0.000	0.373	0.0	0#	0.00	7.79
36	p	2,2-dichloropropane	0.965	0.869	9.9	75	0.00	8.53
37	p	cis-1,2-dichloroethene	0.692	0.712	-2.9	83	0.00	8.50
38	p	ethyl acetate	0.000	0.338	0.0	0#	0.00	7.29
39	p	bromochloromethane	0.355	0.356	-0.3	80	0.00	8.78
40	p	chloroform	1.055	1.144	-8.4	87	0.00	8.84
41	S	dibromofluoromethane (s)	0.515	0.544	-5.6	84	0.00	9.02
42	p	Tetrahydrofuran	0.157	0.166	-5.7	77	0.00	8.79
43	p	1,1,1-trichloroethane	1.045	1.010	3.3	78	0.00	9.10
44	I	1,4-difluorobenzene	1.000	1.000	0.0	77	0.00	9.87
45	p	Cyclohexane	0.686	0.652	5.0	80	0.00	9.21
46	p	carbon tetrachloride	0.588	0.520	11.6	72	0.00	9.29
47	p	1,1-dichloropropene	0.454	0.480	-5.7	81	0.00	9.25
48	p	benzene	1.385	1.410	-1.8	81	0.00	9.49
49	p	1,2-dichloroethane	0.419	0.490	-16.9	90	0.00	9.51
50	p	tert-amyl methyl ether	0.905	0.798	11.8	75	0.00	9.54
51	p	heptane	0.497	0.490	1.4	78	0.00	9.71
52	p	trichloroethene	0.394	0.378	4.1	76	0.00	10.17
53	p	1,2-dichloropropane	0.355	0.372	-4.8	81	0.00	10.46
54	p	dibromomethane	0.232	0.237	-2.2	81	0.00	10.57
55	p	bromodichloromethane	0.459	0.437	4.8	74	0.00	10.71
56	p	Methylcyclohexane	0.648	0.628	3.1	79	0.00	10.47
57	p	2-chloroethyl vinyl ether	0.059	0.049#	16.9	65	0.00	10.94
58	p	methyl methacrylate	0.215	0.195	9.3	73	0.00	10.39
59	p	1,4-dioxane	0.005	0.006#	-20.0	74	0.00	10.51
60	p	cis-1,3-dichloropropene	0.526	0.474	9.9	71	0.00	11.17
61	S	toluene-d8 (s)	1.069	1.077	-0.7	79	0.00	11.49
62	p	4-methyl-2-pentanone	0.335	0.309	7.8	76	0.00	11.26
63	p	toluene	0.881	0.853	3.2	76	0.00	11.57
64	p	trans-1,3-dichloropropene	0.450	0.409	9.1	72	0.00	11.76
65	p	1,1,2-trichloroethane	0.260	0.259	0.4	81	0.00	12.00
66	p	ethyl methacrylate	0.400	0.344	14.0	70	0.00	11.73
67	I	chlorobenzene-d5	1.000	1.000	0.0	84	0.00	13.11
68	p	tetrachloroethene	0.952	0.851	10.6	73	0.00	12.15
69	p	1,3-dichloropropane	1.089	1.078	1.0	83	0.00	12.19
70	p	dibromochloromethane	0.905	0.699	22.8#	64	0.00	12.46
71	p	1,2-dibromoethane	0.771	0.695	9.9	75	0.00	12.63
72	p	2-hexanone	0.587	0.493	16.0	68	0.00	12.15
73	p	chlorobenzene	2.442	2.231	8.6	76	0.00	13.15
74	p	1,1,1,2-tetrachloroethane	0.978	0.837	14.4	69	0.00	13.22
75	p	ethylbenzene	4.074	3.735	8.3	78	0.00	13.21
76	p	m,p-xylene	1.635	1.461	10.6	75	0.00	13.34
77	p	o-xylene	1.702	1.523	10.5	75	0.00	13.79
78	p	styrene	2.556	2.242	12.3	74	0.00	13.80
79	P	bromoform	0.517	0.342	33.8#	56	0.00	14.07
80	p	cis-1,4-dichloro-2-butene	0.305	0.230	24.6#	63	0.00	14.21
81	p	trans-1,4-dichloro-2-bute	0.269	0.224	16.7	75	0.00	14.52
82	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	79	0.00	15.72
83	p	isopropylbenzene	4.144	4.081	1.5	74	0.00	14.18
84	S	bromofluorobenzene (s)	0.896	0.914	-2.0	79	0.00	14.41
85	p	bromobenzene	1.035	1.014	2.0	76	0.00	14.61
86	P	1,1,2,2-tetrachloroethane	0.940	0.938	0.2	79	0.00	14.49
87	p	1,2,3-trichloropropane	0.758	0.852	-12.4	88	0.00	14.59
88	p	n-propylbenzene	4.569	4.700	-2.9	78	0.00	14.64
89	p	2-chlorotoluene	3.086	3.144	-1.9	78	0.00	14.80
90	p	4-chlorotoluene	2.690	2.711	-0.8	78	0.00	14.92

6.9.13

6

Continuing Calibration Summary

Page 3 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MSV1666-CC1661
Lab FileID: V45707.D

91 p	1,3,5-trimethylbenzene	3.519	3.501	0.5	75	0.00	14.82
92 p	tert-butylbenzene	1.991	1.981	0.5	73	0.00	15.20
93 p	1,2,4-trimethylbenzene	3.636	3.560	2.1	75	0.00	15.26
94 p	sec-butylbenzene	4.661	4.564	2.1	73	0.00	15.45
95 p	1,3-dichlorobenzene	1.965	1.910	2.8	77	0.00	15.64
96 p	p-isopropyltoluene	3.906	3.732	4.5	72	0.00	15.59
97 p	1,4-dichlorobenzene	1.956	1.888	3.5	76	0.00	15.75
98 p	1,2-dichlorobenzene	1.980	1.911	3.5	76	0.00	16.17
99 p	n-butylbenzene	3.489	3.396	2.7	76	0.00	16.06
100 p	1,2-dibromo-3-chloropropa	0.184	0.140	23.9#	61	0.00	17.02
101 p	1,3,5-trichlorobenzene	1.603	1.406	12.3	69	0.00	17.23
102 p	1,2,4-trichlorobenzene	1.467	1.270	13.4	67	0.00	17.96
103 p	hexachlorobutadiene	0.664	0.576	13.3	64	0.00	18.09
104 p	naphthalene	3.798	3.312	12.8	68	0.00	18.32
105 p	1,2,3-trichlorobenzene	1.400	1.311	6.4	70	0.00	18.58

		-----	Amount	Calc.	%Drift	-----	
106 p	2-methylnaphthalene		25.000	19.858	20.6#	58	0.00 19.81
107 p	1-methylnaphthalene		25.000	20.893	16.4	61	0.00 20.09

(#) = Out of Range

v45681.D V160227S.M

SPCC's out = 4 CCC's out = 0

Wed Mar 02 16:16:48 2016

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Percent Solids Raw Data Summary

Percent Solids Raw Data Summary

Page 1 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MC44517-4 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-113-0002

Wet Weight (Total)	30.279	g
Tare Weight	23.295	g
Dry Weight (Total)	28.834	g
Solids, Percent	79.3	%

Sample: MC44517-5 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-113-0406

Wet Weight (Total)	28.907	g
Tare Weight	20.345	g
Dry Weight (Total)	28.185	g
Solids, Percent	91.6	%

Sample: MC44517-6 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-113-1012

Wet Weight (Total)	33.686	g
Tare Weight	24.67	g
Dry Weight (Total)	32.438	g
Solids, Percent	86.2	%

Sample: MC44517-7 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-114-0002

Wet Weight (Total)	28.233	g
Tare Weight	20.031	g
Dry Weight (Total)	26.594	g
Solids, Percent	80	%

Sample: MC44517-8 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-114-0406

Wet Weight (Total)	32.513	g
Tare Weight	21.832	g
Dry Weight (Total)	31.356	g
Solids, Percent	89.2	%

Sample: MC44517-9 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-114-1012

Wet Weight (Total)	27.937	g
Tare Weight	20.868	g
Dry Weight (Total)	26.901	g
Solids, Percent	85.3	%

Percent Solids Raw Data Summary

Page 2 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MC44517-10 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-115A-1012

Wet Weight (Total)	36.558	g
Tare Weight	26.238	g
Dry Weight (Total)	35.224	g
Solids, Percent	87.1	%

Sample: MC44517-11 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-116-1012

Wet Weight (Total)	34.358	g
Tare Weight	24.736	g
Dry Weight (Total)	33.07	g
Solids, Percent	86.6	%

Sample: MC44517-12 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-115-0608

Wet Weight (Total)	33.167	g
Tare Weight	23.403	g
Dry Weight (Total)	32.273	g
Solids, Percent	90.8	%

Sample: MC44517-13 **Analyzed:** 29-FEB-16 by EL **Method:** SM 2540G-97 MOD
ClientID: TT-115-0204

Wet Weight (Total)	36.927	g
Tare Weight	27.481	g
Dry Weight (Total)	35.917	g
Solids, Percent	89.3	%

Sample: MC44517-14 **Analyzed:** 29-FEB-16 by EL **Method:** SM 2540G-97 MOD
ClientID: TT-117-1012

Wet Weight (Total)	34.617	g
Tare Weight	26.514	g
Dry Weight (Total)	33.513	g
Solids, Percent	86.4	%

Sample: MC44517-15 **Analyzed:** 29-FEB-16 by EL **Method:** SM 2540G-97 MOD
ClientID: TT-116-0002

Wet Weight (Total)	33.916	g
Tare Weight	24.538	g
Dry Weight (Total)	31.733	g
Solids, Percent	76.7	%

Percent Solids Raw Data Summary

Page 3 of 3

Job Number: MC44517
Account: TTILC Tetra Tech EM, Inc.
Project: River Forest, 7613 Lake Street, River Forest, IL

Sample: MC44517-16 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-116-0608

Wet Weight (Total)	34.234	g
Tare Weight	24.759	g
Dry Weight (Total)	33.735	g
Solids, Percent	94.7	%

Sample: MC44517-17 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-115A-0810

Wet Weight (Total)	29.836	g
Tare Weight	21.468	g
Dry Weight (Total)	29.186	g
Solids, Percent	92.2	%

Sample: MC44517-18 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-117-0002

Wet Weight (Total)	35.553	g
Tare Weight	28.643	g
Dry Weight (Total)	33.922	g
Solids, Percent	76.4	%

Sample: MC44517-19 **Analyzed:** 26-FEB-16 by HS **Method:** SM 2540G-97 MOD
ClientID: TT-117-0608

Wet Weight (Total)	34.259	g
Tare Weight	21.978	g
Dry Weight (Total)	33.479	g
Solids, Percent	93.6	%

SUBURBAN LABORATORIES, Inc.



1950 S. Batavia Ave., Suite 150 Geneva, Illinois 60134
Tel. (708) 544-3260 • Toll Free (800) 783-LABS
Fax (708) 544-8587
www.suburbanlabs.com

September 10, 2019

Megan Wells-Paske
Pioneer Engineering & Environmental Services LLC
2753 West 31st Street
Chicago, IL 60608

Workorder: 1908L05

TEL: (773) 722-9200
FAX: (773) 722-9201
RE: 7613 W Lake

Dear Megan Wells-Paske:

Suburban Laboratories, Inc. received 13 sample(s) on 8/26/2019 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,

Keith Sinon
Project Manager
708-544-3260 ext 212
keith@suburbanlabs.com





Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Case Narrative

Client: Pioneer Engineering & Environmental Servi

Project: 7613 W Lake

WorkOrder: 1908L05

Temperature of samples upon receipt at SLI: 5 C

Date: September 10, 2019

PO #:

QC Level:

Chain of Custody #: 127618

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.
- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.
- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.
- All radiological results are reported to the 95% confidence level.

Abbreviations:

- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS (Surrogate Standard): Quality control compound added to the sample by the lab.

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

Volatiles:

Sample 1908L05-008A: G=Insufficient volume of methanol in provided vial. Sample was analyzed from the jar provided via method 5030.

Sample 1908L05-008A: G = Insufficient volume of methanol in the vial provided to perform a lesser dilution, resulting in elevated reporting limits.

1311_V:

Client: Pioneer Engineering & Environmental Servi

Date: September 10, 2019

Project: 7613 W Lake

PO #:

WorkOrder: 1908L05

QC Level:

Temperature of samples upon receipt at SLI: 5 C

Chain of Custody #: 127618

Sample 1908L05-002C: S=The MS percent recovery (136.0%) for vinyl chloride was outside laboratory control limits (70.0% - 130.0%).



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6001 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-001

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:10 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,1,1-Trichloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,1,2,2-Tetrachloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,1,2-Trichloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,1-Dichloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,1-Dichloroethene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,2-Dichloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
1,2-Dichloropropane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
2-Butanone	<0.00984	0.00984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
2-Hexanone	<0.0246	0.0246		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
4-Methyl-2-pentanone	<0.0246	0.0246		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Acetone	<0.0246	0.0246		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Benzene	<0.000246	0.000246		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Bromodichloromethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Bromoform	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Bromomethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Carbon disulfide	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Carbon tetrachloride	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Chlorobenzene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Chloroethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Chloroform	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Chloromethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
cis-1,2-Dichloroethene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
cis-1,3-Dichloropropene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Dibromochloromethane	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Ethylbenzene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
m,p-Xylene	<0.00197	0.00197		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Methyl tert-butyl ether	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Methylene chloride	<0.00492	0.00492		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
o-Xylene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Total Xylenes	<0.00197	0.00197		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Styrene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Tetrachloroethene	0.00307	0.00197		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Toluene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
trans-1,2-Dichloroethene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
trans-1,3-Dichloropropene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
Trichloroethene	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6001 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-001

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:10 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000984	0.000984		mg/Kg-dry	0.79	08/27/2019 1:02 PM	R111523
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	89.4	80-130		%Rec	0.79	08/27/2019 1:02 PM	R111523
SS: Dibromofluoromethane	102	76.1-120		%Rec	0.79	08/27/2019 1:02 PM	R111523
SS: Toluene-d8	97.5	85-115		%Rec	0.79	08/27/2019 1:02 PM	R111523
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	20	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6002 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-002

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:29 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILES, TCLP LEACHED		Method: EPA-1311/8260B-Rev 2, Dec-96			Analyst: mkl		
1,1-Dichloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
1,2-Dichloroethane	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
2-Butanone	<0.020	0.020		mg/L	100	09/06/2019 5:12 PM	61593
Benzene	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Carbon tetrachloride	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Chlorobenzene	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Chloroform	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Tetrachloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Trichloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:12 PM	61593
Vinyl chloride	<0.004	0.004	S	mg/L	100	09/06/2019 5:12 PM	61593
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	104	70-130		%Rec	100	09/06/2019 5:12 PM	61593
SS: Dibromofluoromethane	96.9	70-130		%Rec	100	09/06/2019 5:12 PM	61593
SS: Toluene-d8	102	70-130		%Rec	100	09/06/2019 5:12 PM	61593
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,1,1-Trichloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,1,2,2-Tetrachloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,1,2-Trichloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,1-Dichloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,1-Dichloroethene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,2-Dichloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
1,2-Dichloropropane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
2-Butanone	<0.819	0.819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
2-Hexanone	<2.05	2.05		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
4-Methyl-2-pentanone	<2.05	2.05		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Acetone	<2.05	2.05		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Benzene	<0.0205	0.0205		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Bromodichloromethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Bromoform	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Bromomethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Carbon disulfide	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Carbon tetrachloride	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Chlorobenzene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Chloroethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6002 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-002

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:29 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Chloroform	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Chloromethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
cis-1,2-Dichloroethene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
cis-1,3-Dichloropropene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Dibromochloromethane	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Ethylbenzene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
m,p-Xylene	<0.164	0.164		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Methyl tert-butyl ether	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Methylene chloride	<0.409	0.409		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
o-Xylene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Total Xylenes	<0.164	0.164		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Styrene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Tetrachloroethene	4.94	0.164		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Toluene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
trans-1,2-Dichloroethene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
trans-1,3-Dichloropropene	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Trichloroethene	0.143	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
Vinyl chloride	<0.0819	0.0819		mg/Kg-dry	63.23	08/28/2019 4:27 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	101	80-130		%Rec	63.23	08/28/2019 4:27 PM	R111608
SS: Dibromofluoromethane	91.7	76.1-120		%Rec	63.23	08/28/2019 4:27 PM	R111608
SS: Toluene-d8	98.9	85-115		%Rec	63.23	08/28/2019 4:27 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	23	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6002 (5-7.5)

Matrix: SOIL

Lab ID: 1908L05-003

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:35 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,1,1-Trichloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,1,2,2-Tetrachloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,1,2-Trichloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,1-Dichloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,1-Dichloroethene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,2-Dichloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
1,2-Dichloropropane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
2-Butanone	<0.00868	0.00868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
2-Hexanone	<0.0217	0.0217		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
4-Methyl-2-pentanone	<0.0217	0.0217		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Acetone	<0.0217	0.0217		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Benzene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Bromodichloromethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Bromoform	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Bromomethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Carbon disulfide	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Carbon tetrachloride	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Chlorobenzene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Chloroethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Chloroform	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Chloromethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
cis-1,2-Dichloroethene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
cis-1,3-Dichloropropene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Dibromochloromethane	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Ethylbenzene	0.00202	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
m,p-Xylene	0.0102	0.00174		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Methyl tert-butyl ether	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Methylene chloride	<0.00434	0.00434		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
o-Xylene	0.00248	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Total Xylenes	0.0127	0.00174		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Styrene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Tetrachloroethene	0.113	0.00174		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Toluene	0.00704	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
trans-1,2-Dichloroethene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
trans-1,3-Dichloropropene	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
Trichloroethene	0.00310	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6002 (5-7.5)

Matrix: SOIL

Lab ID: 1908L05-003

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:35 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000868	0.000868		mg/Kg-dry	0.72	09/03/2019 6:25 PM	R111754
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	93.7	80-130		%Rec	0.72	09/03/2019 6:25 PM	R111754
SS: Dibromofluoromethane	97.5	76.1-120		%Rec	0.72	09/03/2019 6:25 PM	R111754
SS: Toluene-d8	97.1	85-115		%Rec	0.72	09/03/2019 6:25 PM	R111754
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	17	1.0	c	wt%	1	09/06/2019 5:36 PM	R111888



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6003 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-004

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:55 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,1,1-Trichloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,1,2,2-Tetrachloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,1,2-Trichloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,1-Dichloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,1-Dichloroethene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,2-Dichloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
1,2-Dichloropropane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
2-Butanone	<0.0101	0.0101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
2-Hexanone	<0.0253	0.0253		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
4-Methyl-2-pentanone	<0.0253	0.0253		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Acetone	<0.0253	0.0253		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Benzene	<0.000253	0.000253		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Bromodichloromethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Bromoform	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Bromomethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Carbon disulfide	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Carbon tetrachloride	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Chlorobenzene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Chloroethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Chloroform	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Chloromethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
cis-1,2-Dichloroethene	0.00478	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
cis-1,3-Dichloropropene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Dibromochloromethane	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Ethylbenzene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
m,p-Xylene	<0.00202	0.00202		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Methyl tert-butyl ether	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Methylene chloride	<0.00506	0.00506		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
o-Xylene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Total Xylenes	<0.00202	0.00202		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Styrene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Tetrachloroethene	0.851	0.289		mg/Kg-dry	111.3	08/28/2019 3:12 PM	R111608
Toluene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
trans-1,2-Dichloroethene	0.00152	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
trans-1,3-Dichloropropene	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
Trichloroethene	0.0194	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6003 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-004

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 8:55 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.00101	0.00101		mg/Kg-dry	0.78	08/27/2019 2:01 PM	R111523
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	94.0	80-130		%Rec	0.78	08/27/2019 2:01 PM	R111523
SS: Dibromofluoromethane	102	76.1-120		%Rec	0.78	08/27/2019 2:01 PM	R111523
SS: Toluene-d8	98.6	85-115		%Rec	0.78	08/27/2019 2:01 PM	R111523
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	23	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6004 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-005

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 9:27 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILES, TCLP LEACHED		Method: EPA-1311/8260B-Rev 2, Dec-96			Analyst: mkl		
1,1-Dichloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
1,2-Dichloroethane	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
2-Butanone	<0.020	0.020		mg/L	100	09/06/2019 5:37 PM	61593
Benzene	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Carbon tetrachloride	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Chlorobenzene	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Chloroform	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Tetrachloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Trichloroethene	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
Vinyl chloride	<0.004	0.004		mg/L	100	09/06/2019 5:37 PM	61593
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	106	70-130		%Rec	100	09/06/2019 5:37 PM	61593
SS: Dibromofluoromethane	98.9	70-130		%Rec	100	09/06/2019 5:37 PM	61593
SS: Toluene-d8	101	70-130		%Rec	100	09/06/2019 5:37 PM	61593
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,1,1-Trichloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,1,2,2-Tetrachloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,1,2-Trichloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,1-Dichloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,1-Dichloroethene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,2-Dichloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
1,2-Dichloropropane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
2-Butanone	<0.571	0.571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
2-Hexanone	<1.43	1.43		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
4-Methyl-2-pentanone	<1.43	1.43		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Acetone	<1.43	1.43		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Benzene	<0.0143	0.0143		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Bromodichloromethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Bromoform	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Bromomethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Carbon disulfide	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Carbon tetrachloride	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Chlorobenzene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Chloroethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6004 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-005

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 9:27 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Chloroform	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Chloromethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
cis-1,2-Dichloroethene	0.272	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
cis-1,3-Dichloropropene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Dibromochloromethane	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Ethylbenzene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
m,p-Xylene	<0.114	0.114		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Methyl tert-butyl ether	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Methylene chloride	<0.285	0.285		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
o-Xylene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Total Xylenes	<0.114	0.114		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Styrene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Tetrachloroethene	7.22	0.114		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Toluene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
trans-1,2-Dichloroethene	0.0610	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
trans-1,3-Dichloropropene	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Trichloroethene	1.02	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
Vinyl chloride	<0.0571	0.0571		mg/Kg-dry	46.24	08/28/2019 4:53 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	99.7	80-130		%Rec	46.24	08/28/2019 4:53 PM	R111608
SS: Dibromofluoromethane	92.3	76.1-120		%Rec	46.24	08/28/2019 4:53 PM	R111608
SS: Toluene-d8	97.6	85-115		%Rec	46.24	08/28/2019 4:53 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	19	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6005 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-006

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:00 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,1,1-Trichloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,1,2,2-Tetrachloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,1,2-Trichloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,1-Dichloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,1-Dichloroethene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,2-Dichloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
1,2-Dichloropropane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
2-Butanone	<0.00928	0.00928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
2-Hexanone	<0.0232	0.0232		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
4-Methyl-2-pentanone	<0.0232	0.0232		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Acetone	<0.0232	0.0232		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Benzene	<0.000232	0.000232		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Bromodichloromethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Bromoform	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Bromomethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Carbon disulfide	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Carbon tetrachloride	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Chlorobenzene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Chloroethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Chloroform	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Chloromethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
cis-1,2-Dichloroethene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
cis-1,3-Dichloropropene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Dibromochloromethane	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Ethylbenzene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
m,p-Xylene	<0.00186	0.00186		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Methyl tert-butyl ether	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Methylene chloride	<0.00464	0.00464		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
o-Xylene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Total Xylenes	<0.00186	0.00186		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Styrene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Tetrachloroethene	0.783	0.278		mg/Kg-dry	119.9	08/28/2019 3:37 PM	R111608
Toluene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
trans-1,2-Dichloroethene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
trans-1,3-Dichloropropene	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
Trichloroethene	0.00153	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6005 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-006

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:00 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000928	0.000928		mg/Kg-dry	0.8	08/27/2019 1:32 PM	R111523
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	91.5	80-130		%Rec	0.8	08/27/2019 1:32 PM	R111523
SS: Dibromofluoromethane	102	76.1-120		%Rec	0.8	08/27/2019 1:32 PM	R111523
SS: Toluene-d8	96.8	85-115		%Rec	0.8	08/27/2019 1:32 PM	R111523
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	14	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6005 (5-7.5)

Matrix: SOIL

Lab ID: 1908L05-007

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:02 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96				Analyst: mkl	
Total 1,3-Dichloropropene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,1,1-Trichloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,1,2,2-Tetrachloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,1,2-Trichloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,1-Dichloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,1-Dichloroethene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,2-Dichloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
1,2-Dichloropropane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
2-Butanone	<1.63	1.63	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
2-Hexanone	<4.07	4.07	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
4-Methyl-2-pentanone	<4.07	4.07	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Acetone	<4.07	4.07	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Benzene	<0.0407	0.0407	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Bromodichloromethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Bromoform	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Bromomethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Carbon disulfide	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Carbon tetrachloride	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Chlorobenzene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Chloroethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Chloroform	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Chloromethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
cis-1,2-Dichloroethene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
cis-1,3-Dichloropropene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Dibromochloromethane	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Ethylbenzene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
m,p-Xylene	<0.326	0.326	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Methyl tert-butyl ether	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Methylene chloride	<0.815	0.815	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
o-Xylene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Total Xylenes	<0.326	0.326	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Styrene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Tetrachloroethene	5.15	0.326	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Toluene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
trans-1,2-Dichloroethene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
trans-1,3-Dichloropropene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
Trichloroethene	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6005 (5-7.5)

Matrix: SOIL

Lab ID: 1908L05-007

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:02 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.163	0.163	G	mg/Kg-dry	146.8	09/04/2019 3:55 PM	R111805
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	94.5	80-130	G	%Rec	146.8	09/04/2019 3:55 PM	R111805
SS: Dibromofluoromethane	90.9	76.1-120	G	%Rec	146.8	09/04/2019 3:55 PM	R111805
SS: Toluene-d8	97.0	85-115	G	%Rec	146.8	09/04/2019 3:55 PM	R111805
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	9.9	1.0	c	wt%	1	09/06/2019 5:36 PM	R111888



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6006 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-008

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:50 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,1,1-Trichloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,1,2,2-Tetrachloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,1,2-Trichloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,1-Dichloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,1-Dichloroethene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,2-Dichloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
1,2-Dichloropropane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
2-Butanone	<0.626	0.626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
2-Hexanone	<1.57	1.57	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
4-Methyl-2-pentanone	<1.57	1.57	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Acetone	<1.57	1.57	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Benzene	<0.0157	0.0157	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Bromodichloromethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Bromoform	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Bromomethane	<0.0689	0.0689	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Carbon disulfide	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Carbon tetrachloride	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Chlorobenzene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Chloroethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Chloroform	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Chloromethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
cis-1,2-Dichloroethene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
cis-1,3-Dichloropropene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Dibromochloromethane	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Ethylbenzene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
m,p-Xylene	<0.125	0.125	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Methyl tert-butyl ether	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Methylene chloride	<0.313	0.313	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
o-Xylene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Total Xylenes	<0.125	0.125	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Styrene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Tetrachloroethene	1.08	0.125	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Toluene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
trans-1,2-Dichloroethene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
trans-1,3-Dichloropropene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
Trichloroethene	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6006 (0-2.5)

Matrix: SOIL

Lab ID: 1908L05-008

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 10:50 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.0626	0.0626	G	mg/Kg-dry	50.03	08/28/2019 4:02 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	102	80-130	G	%Rec	50.03	08/28/2019 4:02 PM	R111608
SS: Dibromofluoromethane	92.2	76.1-120	G	%Rec	50.03	08/28/2019 4:02 PM	R111608
SS: Toluene-d8	99.0	85-115	G	%Rec	50.03	08/28/2019 4:02 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	20	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6007 (2.5-5)

Matrix: SOIL

Lab ID: 1908L05-009

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 11:31 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,1,1-Trichloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,1,2,2-Tetrachloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,1,2-Trichloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,1-Dichloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,1-Dichloroethene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,2-Dichloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
1,2-Dichloropropane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
2-Butanone	<0.505	0.505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
2-Hexanone	<1.26	1.26		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
4-Methyl-2-pentanone	<1.26	1.26		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Acetone	<1.26	1.26		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Benzene	<0.0126	0.0126		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Bromodichloromethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Bromoform	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Bromomethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Carbon disulfide	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Carbon tetrachloride	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Chlorobenzene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Chloroethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Chloroform	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Chloromethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
cis-1,2-Dichloroethene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
cis-1,3-Dichloropropene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Dibromochloromethane	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Ethylbenzene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
m,p-Xylene	<0.101	0.101		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Methyl tert-butyl ether	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Methylene chloride	<0.253	0.253		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
o-Xylene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Total Xylenes	<0.101	0.101		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Styrene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Tetrachloroethene	2.59	0.101		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Toluene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
trans-1,2-Dichloroethene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
trans-1,3-Dichloropropene	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
Trichloroethene	0.0607	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6007 (2.5-5)

Matrix: SOIL

Lab ID: 1908L05-009

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 11:31 AM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.0505	0.0505		mg/Kg-dry	42.7	08/28/2019 5:18 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	97.2	80-130		%Rec	42.7	08/28/2019 5:18 PM	R111608
SS: Dibromofluoromethane	93.5	76.1-120		%Rec	42.7	08/28/2019 5:18 PM	R111608
SS: Toluene-d8	98.6	85-115		%Rec	42.7	08/28/2019 5:18 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	16	1.0	c	wt%	1	08/28/2019 10:48 AM	R111551



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6008 (5-7.5)

Matrix: SOIL

Lab ID: 1908L05-010

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 12:08 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,1,1-Trichloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,1,2,2-Tetrachloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,1,2-Trichloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,1-Dichloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,1-Dichloroethene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,2-Dichloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
1,2-Dichloropropane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
2-Butanone	<0.623	0.623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
2-Hexanone	<1.56	1.56		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
4-Methyl-2-pentanone	<1.56	1.56		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Acetone	<1.56	1.56		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Benzene	<0.0156	0.0156		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Bromodichloromethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Bromoform	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Bromomethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Carbon disulfide	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Carbon tetrachloride	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Chlorobenzene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Chloroethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Chloroform	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Chloromethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
cis-1,2-Dichloroethene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
cis-1,3-Dichloropropene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Dibromochloromethane	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Ethylbenzene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
m,p-Xylene	<0.125	0.125		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Methyl tert-butyl ether	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Methylene chloride	<0.312	0.312		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
o-Xylene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Total Xylenes	<0.125	0.125		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Styrene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Tetrachloroethene	8.43	0.125		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Toluene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
trans-1,2-Dichloroethene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
trans-1,3-Dichloropropene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
Trichloroethene	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019
Workorder: 1908L05

Client Sample ID: B6008 (5-7.5)

Lab ID: 1908L05-010

Date Received: 08/26/2019 11:15 AM

Matrix: SOIL

Collection Date: 08/24/2019 12:08 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.0623	0.0623		mg/Kg-dry	58.46	08/28/2019 5:44 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	100	80-130		%Rec	58.46	08/28/2019 5:44 PM	R111608
SS: Dibromofluoromethane	91.2	76.1-120		%Rec	58.46	08/28/2019 5:44 PM	R111608
SS: Toluene-d8	98.5	85-115		%Rec	58.46	08/28/2019 5:44 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	6.2	1.0	c	wt%	1	08/28/2019 12:41 PM	R111559



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6008 (10-12.5)

Matrix: SOIL

Lab ID: 1908L05-011

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 12:17 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,1,1-Trichloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,1,2,2-Tetrachloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,1,2-Trichloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,1-Dichloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,1-Dichloroethene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,2-Dichloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
1,2-Dichloropropane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
2-Butanone	<0.00789	0.00789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
2-Hexanone	<0.0197	0.0197		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
4-Methyl-2-pentanone	<0.0197	0.0197		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Acetone	<0.0197	0.0197		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Benzene	<0.000197	0.000197		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Bromodichloromethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Bromoform	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Bromomethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Carbon disulfide	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Carbon tetrachloride	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Chlorobenzene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Chloroethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Chloroform	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Chloromethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
cis-1,2-Dichloroethene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
cis-1,3-Dichloropropene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Dibromochloromethane	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Ethylbenzene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
m,p-Xylene	0.00215	0.00158		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Methyl tert-butyl ether	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Methylene chloride	<0.00395	0.00395		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
o-Xylene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Total Xylenes	0.00215	0.00158		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Styrene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Tetrachloroethene	<0.00158	0.00158		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Toluene	0.000931	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
trans-1,2-Dichloroethene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
trans-1,3-Dichloropropene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
Trichloroethene	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6008 (10-12.5)

Matrix: SOIL

Lab ID: 1908L05-011

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 12:17 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000789	0.000789		mg/Kg-dry	0.68	09/03/2019 5:27 PM	R111754
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	91.8	80-130		%Rec	0.68	09/03/2019 5:27 PM	R111754
SS: Dibromofluoromethane	99.7	76.1-120		%Rec	0.68	09/03/2019 5:27 PM	R111754
SS: Toluene-d8	96.4	85-115		%Rec	0.68	09/03/2019 5:27 PM	R111754
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	14	1.0	c	wt%	1	09/06/2019 5:36 PM	R111888



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6009 (7.5-10)

Matrix: SOIL

Lab ID: 1908L05-012

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 1:01 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,1,1-Trichloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,1,2,2-Tetrachloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,1,2-Trichloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,1-Dichloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,1-Dichloroethene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,2-Dichloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
1,2-Dichloropropane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
2-Butanone	<4.88	4.88		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
2-Hexanone	<12.2	12.2		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
4-Methyl-2-pentanone	<12.2	12.2		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Acetone	<12.2	12.2		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Benzene	<0.122	0.122		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Bromodichloromethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Bromoform	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Bromomethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Carbon disulfide	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Carbon tetrachloride	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Chlorobenzene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Chloroethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Chloroform	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Chloromethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
cis-1,2-Dichloroethene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
cis-1,3-Dichloropropene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Dibromochloromethane	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Ethylbenzene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
m,p-Xylene	<0.977	0.977		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Methyl tert-butyl ether	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Methylene chloride	<2.44	2.44		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
o-Xylene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Total Xylenes	<0.977	0.977		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Styrene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Tetrachloroethene	29.4	0.977		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Toluene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
trans-1,2-Dichloroethene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
trans-1,3-Dichloropropene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
Trichloroethene	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6009 (7.5-10)

Matrix: SOIL

Lab ID: 1908L05-012

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 1:01 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.488	0.488		mg/Kg-dry	459	08/28/2019 9:05 PM	R111608
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	96.3	80-130		%Rec	459	08/28/2019 9:05 PM	R111608
SS: Dibromofluoromethane	96.1	76.1-120		%Rec	459	08/28/2019 9:05 PM	R111608
SS: Toluene-d8	98.4	85-115		%Rec	459	08/28/2019 9:05 PM	R111608
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	6.0	1.0	c	wt%	1	08/28/2019 12:41 PM	R111559



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6009 (12.5-15)

Matrix: SOIL

Lab ID: 1908L05-013

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 1:09 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,1,1-Trichloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,1,2,2-Tetrachloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,1,2-Trichloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,1-Dichloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,1-Dichloroethene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,2-Dichloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
1,2-Dichloropropane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
2-Butanone	<0.00864	0.00864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
2-Hexanone	<0.0216	0.0216		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
4-Methyl-2-pentanone	<0.0216	0.0216		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Acetone	<0.0216	0.0216		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Benzene	<0.000216	0.000216		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Bromodichloromethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Bromoform	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Bromomethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Carbon disulfide	0.000942	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Carbon tetrachloride	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Chlorobenzene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Chloroethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Chloroform	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Chloromethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
cis-1,2-Dichloroethene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
cis-1,3-Dichloropropene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Dibromochloromethane	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Ethylbenzene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
m,p-Xylene	0.00258	0.00173		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Methyl tert-butyl ether	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Methylene chloride	<0.00432	0.00432		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
o-Xylene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Total Xylenes	0.00258	0.00173		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Styrene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Tetrachloroethene	0.0107	0.00173		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Toluene	0.000985	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
trans-1,2-Dichloroethene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
trans-1,3-Dichloropropene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
Trichloroethene	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 7613 W Lake

Report Date: September 10, 2019

Workorder: 1908L05

Client Sample ID: B6009 (12.5-15)

Matrix: SOIL

Lab ID: 1908L05-013

Date Received: 08/26/2019 11:15 AM

Collection Date: 08/24/2019 1:09 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000864	0.000864		mg/Kg-dry	0.74	09/03/2019 5:56 PM	R111754
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	84.3	80-130		%Rec	0.74	09/03/2019 5:56 PM	R111754
SS: Dibromofluoromethane	100	76.1-120		%Rec	0.74	09/03/2019 5:56 PM	R111754
SS: Toluene-d8	93.7	85-115		%Rec	0.74	09/03/2019 5:56 PM	R111754
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: LT		
Percent Moisture	14	1.0	c	wt%	1	09/06/2019 5:36 PM	R111888

**Suburban Laboratories, Inc.**

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

PREP DATES REPORT

Client: Pioneer Environmental Services LLC
Project: 7613 W Lake

Report Date: September 10, 2019
Lab Order: 1908L05

Sample ID	Collection Date	Batch ID	Prep Method	Prep Test Name	TCLP Date	Prep Date
1908L05-001A	8/24/2019 8:10:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-002A	8/24/2019 8:29:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-002C		61593	1311ZHE	TCLP SAMPLE PREP ZHE (VOCS)		9/5/2019
1908L05-003A	8/24/2019 8:35:00 A	61525	5035PR	CLOSED SYSTEM P&T VOC Prep		9/3/2019
1908L05-004A	8/24/2019 8:55:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-005A	8/24/2019 9:27:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-005C		61593	1311ZHE	TCLP SAMPLE PREP ZHE (VOCS)		9/5/2019
1908L05-006A	8/24/2019 10:00:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-007A	8/24/2019 10:02:00 A	61525	5035PR	CLOSED SYSTEM P&T VOC Prep		9/3/2019
1908L05-008A	8/24/2019 10:50:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-009A	8/24/2019 11:31:00 A	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-010A	8/24/2019 12:08:00 P	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-011A	8/24/2019 12:17:00 P	61525	5035PR	CLOSED SYSTEM P&T VOC Prep		9/3/2019
1908L05-012A	8/24/2019 1:01:00 P	61390	5035PR	CLOSED SYSTEM P&T VOC Prep		8/27/2019
1908L05-013A	8/24/2019 1:09:00 P	61525	5035PR	CLOSED SYSTEM P&T VOC Prep		9/3/2019



Qualifiers:

*X	Value exceeds Maximum Contaminant Level
B	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in SLI scope of accreditation
E	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.



SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Ste 150, Geneva, IL 60134

Tel: 708.544.3260 Fax: 708.544.8587

Toll Free: 800.783.LABS

www.suburbanlabs.com

CHAIN OF CUSTODY RECORD

#

127620

Company Name

ULS/NEEK

Company Address

2753 W 310T

City

State

Zip

Phone

Fax

Email Address

Project ID / Location

Project Manager (Report to)

Sample Collector(s) Name

TURNAROUND TIME REQUESTED

☒ Normal ☐ RUSH* *Additional Rush Charges Approved.

*Date & Time Needed:

Normal TAT is specified on the price quotation or fee schedule. Rush work must be pre-approved and additional charges apply.

Specify Regulatory Program: ☐ None/Info Only

☐ LUST ☐ SRP ☐ SDWA

☐ 503 Sludge ☐ NPDES ☐ MWRDGC

☐ Disposal ☐ Other* *Please specify in comment section below.

ANALYSIS & METHOD REQUESTED

Enter an "X" in box below for request

Page 2 of 2

PO No.

Shipping Method

Reporting Level (at additional charge) 1 2 3 4

LAB USE ONLY

SL ORDER NO 198205

Sample containers supplied by customer? ☐ Yes

Temperature of Received Samples 5 °C

Samples received the same day as collection? ☐ Yes

R Condition Split LAB #

13413C

SAMPLE IDENTIFICATION

Use One Line Per Preservation & Container Type

1 06009 (125-15)

8/24/19 109

80

4

462 YLH

WAL RUSH

X

HOCO

COLLECTION

DATE

TIME

MATRIX

GRAB/COMP.

QTY

SIZE & TYPE

PRESERVATIVE

2

1

3

4

5

6

7

8

9

10

11

12

COMMENTS & SPECIAL INSTRUCTIONS:

MATRIX: Drinking Water (DW), Soil (S), Waste Water (WW), Surface Water (SW), Ground Water (GW), Solid Waste (WA), Sludge (U), Wipe (P) CONTAINER: 2oz, 4oz, 8oz, 40ml Vial, 500ml, Liter (L), Tube, Glass (G), Plastic (P) PRESERVATIVE: H₂SO₄, HCl, HNO₃, Methanol (MeOH), NaOH, Sodium Bisulfate (NaHSO₃), Parthio

CONDITION CODES

1. Improper/damaged container/cap

2. Improper preservation

3. Insufficient sample volume

4. Headspace/air bubbles for VOCs

5. Received past holding time

6. Received frozen

7. Label conflicts with COC

1. Relinquished By

Date

8/26/19

Time

4:36

Received By

Date

8-26-19

Time

11:18

Received By

Date

Received By

Date

Time

Received By

present

Ice

Time

4:36

Received By

present

Ice

Time

11:18

Received By

Date

Received By

Date

Time

present

Submission of samples subject to Terms and Conditions on back.

Rev. 07/20/08

White-Original. Pink-Sampler Copy

SUBURBAN LABORATORIES, Inc.



1950 S. Batavia Ave., Suite 150 Geneva, Illinois 60134
Tel. (708) 544-3260 • Toll Free (800) 783-LABS
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September 20, 2019

Megan Wells-Paske
Pioneer Engineering & Environmental Services LLC
2753 West 31st Street
Chicago, IL 60608

Workorder: 1909410

TEL: (773) 722-9200

FAX: (773) 722-9201

RE: 19-0338-101 7613 Lake St River Forest

Dear Megan Wells-Paske:

Suburban Laboratories, Inc. received 24 sample(s) on 9/6/2019 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,

Keith Sinon
Project Manager
708-544-3260 ext 212
keith@suburbanlabs.com





Client: Pioneer Engineering & Environmental Servi

Date: September 20, 2019

Project: 19-0338-101 7613 Lake St River Forest

PO #: 19-0338-101

WorkOrder: 1909410

QC Level:

Temperature of samples upon receipt at SLI: 5 C

Chain of Custody #:

General Comments:

- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.
- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.
- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.
- All radiological results are reported to the 95% confidence level.

Abbreviations:

- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS (Surrogate Standard): Quality control compound added to the sample by the lab.

Method References:

For a complete list of method references please contact us.

- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

Volatiles:

Sample 1909410-004A: G=Methanol vial did not have enough methanol for analysis. Sample was analyzed from the jar provided via method 5030.

Volatiles:

Sample 1909410-017A: G=Stir-bar vials provided did not purge properly due to sample matrix. Sample was analyzed from the jar provided via method 5030. The sample exhibited internal standard suppression due to sample matrix. Affected analytes were reported from dilutions, resulting in elevated reporting limits.

Client: Pioneer Engineering & Environmental Servi
Project: 19-0338-101 7613 Lake St River Forest
WorkOrder: 1909410
Temperature of samples upon receipt at SLI: 5 C

Date: September 20, 2019
PO #: 19-0338-101
QC Level:
Chain of Custody #:



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B-6002 (10-12.5)

Matrix: SOIL

Lab ID: 1909410-001

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:16 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILES, TCLP LEACHED		Method: EPA-1311/8260B-Rev 2, Dec-96			Analyst: SP		
1,1-Dichloroethene	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
1,2-Dichloroethane	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
2-Butanone	<0.020	0.020		mg/L	100	09/19/2019 12:20 PM	61866
Benzene	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Carbon tetrachloride	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Chlorobenzene	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Chloroform	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Tetrachloroethene	0.010	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Trichloroethene	0.009	0.004		mg/L	100	09/19/2019 12:20 PM	61866
Vinyl chloride	<0.004	0.004		mg/L	100	09/19/2019 12:20 PM	61866
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	106	70-130		%Rec	100	09/19/2019 12:20 PM	61866
SS: Dibromofluoromethane	99.1	70-130		%Rec	100	09/19/2019 12:20 PM	61866
SS: Toluene-d8	101	70-130		%Rec	100	09/19/2019 12:20 PM	61866
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,1,1-Trichloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,1,2,2-Tetrachloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,1,2-Trichloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,1-Dichloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,1-Dichloroethene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,2-Dichloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
1,2-Dichloropropane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
2-Butanone	<199	199		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
2-Hexanone	<499	499		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
4-Methyl-2-pentanone	<499	499		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Acetone	<499	499		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Benzene	<4.99	4.99		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Bromodichloromethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Bromoform	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Bromomethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Carbon disulfide	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Carbon tetrachloride	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Chlorobenzene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Chloroethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B-6002 (10-12.5)

Lab ID: 1909410-001

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 3:16 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Chloroform	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Chloromethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
cis-1,2-Dichloroethene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
cis-1,3-Dichloropropene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Dibromochloromethane	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Ethylbenzene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
m,p-Xylene	<39.9	39.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Methyl tert-butyl ether	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Methylene chloride	<99.7	99.7		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
o-Xylene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Total Xylenes	<39.9	39.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Styrene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Tetrachloroethene	4,540	79.8		mg/Kg-dry	17855	09/10/2019 10:45 AM	R111980
Toluene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
trans-1,2-Dichloroethene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
trans-1,3-Dichloropropene	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Trichloroethene	111	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
Vinyl chloride	<19.9	19.9		mg/Kg-dry	8927	09/09/2019 8:40 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	105	80-130		%Rec	8927	09/09/2019 8:40 PM	R111921
SS: Dibromofluoromethane	95.1	76.1-120		%Rec	8927	09/09/2019 8:40 PM	R111921
SS: Toluene-d8	103	85-115		%Rec	8927	09/09/2019 8:40 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	55	1.0	c	wt%	1	09/10/2019 3:17 PM	R111972



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B-6002 (12.5-15)

Matrix: SOIL

Lab ID: 1909410-002

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:16 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Total 1,3-Dichloropropene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,1,1-Trichloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,1,2,2-Tetrachloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,1,2-Trichloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,1-Dichloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,1-Dichloroethene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,2-Dichloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
1,2-Dichloropropane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
2-Butanone	<0.00723	0.00723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
2-Hexanone	<0.0181	0.0181		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
4-Methyl-2-pentanone	<0.0181	0.0181		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Acetone	<0.0181	0.0181		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Benzene	<0.000181	0.000181		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Bromodichloromethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Bromoform	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Bromomethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Carbon disulfide	0.00130	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Carbon tetrachloride	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Chlorobenzene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Chloroethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Chloroform	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Chloromethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
cis-1,2-Dichloroethene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
cis-1,3-Dichloropropene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Dibromochloromethane	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Ethylbenzene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
m,p-Xylene	<0.00145	0.00145		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Methyl tert-butyl ether	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Methylene chloride	<0.00361	0.00361		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
o-Xylene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Total Xylenes	<0.00145	0.00145		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Styrene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Tetrachloroethene	0.0392	0.00145		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Toluene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
trans-1,2-Dichloroethene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
trans-1,3-Dichloropropene	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
Trichloroethene	0.000897	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B-6002 (12.5-15)

Lab ID: 1909410-002

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 3:16 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Vinyl chloride	<0.000723	0.000723		mg/Kg-dry	0.639	09/16/2019 1:51 PM	R112214
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	85.6	80-130		%Rec	0.639	09/16/2019 1:51 PM	R112214
SS: Dibromofluoromethane	101	76.1-120		%Rec	0.639	09/16/2019 1:51 PM	R112214
SS: Toluene-d8	94.7	85-115		%Rec	0.639	09/16/2019 1:51 PM	R112214
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: JLR		
Percent Moisture	12	1.0	c	wt%	1	09/18/2019 9:08 AM	R112238



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6010 (2.5-5)

Matrix: SOIL

Lab ID: 1909410-003

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:51 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILES, TCLP LEACHED		Method: EPA-1311/8260B-Rev 2, Dec-96			Analyst: SP		
1,1-Dichloroethene	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
1,2-Dichloroethane	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
2-Butanone	<0.020	0.020		mg/L	100	09/19/2019 12:46 PM	61866
Benzene	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Carbon tetrachloride	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Chlorobenzene	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Chloroform	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Tetrachloroethene	0.006	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Trichloroethene	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
Vinyl chloride	<0.004	0.004		mg/L	100	09/19/2019 12:46 PM	61866
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	107	70-130		%Rec	100	09/19/2019 12:46 PM	61866
SS: Dibromofluoromethane	101	70-130		%Rec	100	09/19/2019 12:46 PM	61866
SS: Toluene-d8	102	70-130		%Rec	100	09/19/2019 12:46 PM	61866
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Total 1,3-Dichloropropene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,1,1-Trichloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,1,2,2-Tetrachloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,1,2-Trichloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,1-Dichloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,1-Dichloroethene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,2-Dichloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
1,2-Dichloropropane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
2-Butanone	<2.14	2.14		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
2-Hexanone	<5.36	5.36		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
4-Methyl-2-pentanone	<5.36	5.36		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Acetone	<5.36	5.36		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Benzene	<0.0536	0.0536		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Bromodichloromethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Bromoform	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Bromomethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Carbon disulfide	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Carbon tetrachloride	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Chlorobenzene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Chloroethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6010 (2.5-5)

Matrix: SOIL

Lab ID: 1909410-003

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:51 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Chloroform	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Chloromethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
cis-1,2-Dichloroethene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
cis-1,3-Dichloropropene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Dibromochloromethane	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Ethylbenzene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
m,p-Xylene	<0.428	0.428		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Methyl tert-butyl ether	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Methylene chloride	<1.07	1.07		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
o-Xylene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Total Xylenes	<0.428	0.428		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Styrene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Tetrachloroethene	18.4	0.428		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Toluene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
trans-1,2-Dichloroethene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
trans-1,3-Dichloropropene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Trichloroethene	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
Vinyl chloride	<0.214	0.214		mg/Kg-dry	196.1	09/16/2019 1:20 PM	R112196
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	103	80-130		%Rec	196.1	09/16/2019 1:20 PM	R112196
SS: Dibromofluoromethane	93.0	76.1-120		%Rec	196.1	09/16/2019 1:20 PM	R112196
SS: Toluene-d8	101	85-115		%Rec	196.1	09/16/2019 1:20 PM	R112196

PERCENT MOISTURE

Method: ASTM-D2216-Rev 2005

Analyst: JLR

Percent Moisture	8.5	1.0	c	wt%	1	09/18/2019 9:08 AM	R112238
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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6010 (5-7.5)

Matrix: SOIL

Lab ID: 1909410-004

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 4:24 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,1,1-Trichloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,1,2,2-Tetrachloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,1,2-Trichloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,1-Dichloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,1-Dichloroethene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,2-Dichloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
1,2-Dichloropropane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
2-Butanone	<0.560	0.560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
2-Hexanone	<1.40	1.40	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
4-Methyl-2-pentanone	<1.40	1.40	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Acetone	<1.40	1.40	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Benzene	<0.0140	0.0140	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Bromodichloromethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Bromoform	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Bromomethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Carbon disulfide	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Carbon tetrachloride	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Chlorobenzene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Chloroethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Chloroform	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Chloromethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
cis-1,2-Dichloroethene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
cis-1,3-Dichloropropene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Dibromochloromethane	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Ethylbenzene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
m,p-Xylene	<0.112	0.112	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Methyl tert-butyl ether	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Methylene chloride	<0.280	0.280	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
o-Xylene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Total Xylenes	<0.112	0.112	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Styrene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Tetrachloroethene	3.46	0.112	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Toluene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
trans-1,2-Dichloroethene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
trans-1,3-Dichloropropene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
Trichloroethene	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6010 (5-7.5)

Matrix: SOIL

Lab ID: 1909410-004

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 4:24 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.0560	0.0560	G	mg/Kg-dry	49.45	09/10/2019 11:37 AM	R111980
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	103	80-130	G	%Rec	49.45	09/10/2019 11:37 AM	R111980
SS: Dibromofluoromethane	90.4	76.1-120	G	%Rec	49.45	09/10/2019 11:37 AM	R111980
SS: Toluene-d8	101	85-115	G	%Rec	49.45	09/10/2019 11:37 AM	R111980
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	12	1.0	c	wt%	1	09/10/2019 3:17 PM	R111972



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6011 (7.5-10)

Lab ID: 1909410-007

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 5:35 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,1,1-Trichloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,1,2,2-Tetrachloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,1,2-Trichloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,1-Dichloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,1-Dichloroethene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,2-Dichloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
1,2-Dichloropropane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
2-Butanone	<22.0	22.0		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
2-Hexanone	<55.0	55.0		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
4-Methyl-2-pentanone	<55.0	55.0		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Acetone	<55.0	55.0		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Benzene	<0.550	0.550		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Bromodichloromethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Bromoform	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Bromomethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Carbon disulfide	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Carbon tetrachloride	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Chlorobenzene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Chloroethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Chloroform	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Chloromethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
cis-1,2-Dichloroethene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
cis-1,3-Dichloropropene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Dibromochloromethane	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Ethylbenzene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
m,p-Xylene	<4.40	4.40		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Methyl tert-butyl ether	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Methylene chloride	<11.0	11.0		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
o-Xylene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Total Xylenes	<4.40	4.40		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Styrene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Tetrachloroethene	239	4.40		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Toluene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
trans-1,2-Dichloroethene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
trans-1,3-Dichloropropene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
Trichloroethene	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6011 (7.5-10)

Lab ID: 1909410-007

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 5:35 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<2.20	2.20		mg/Kg-dry	2097	09/09/2019 9:06 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	105	80-130		%Rec	2097	09/09/2019 9:06 PM	R111921
SS: Dibromofluoromethane	96.1	76.1-120		%Rec	2097	09/09/2019 9:06 PM	R111921
SS: Toluene-d8	102	85-115		%Rec	2097	09/09/2019 9:06 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	4.7	1.0	c	wt%	1	09/10/2019 3:17 PM	R111972



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6011 (12.5-15)

Matrix: SOIL

Lab ID: 1909410-008

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 5:54 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Total 1,3-Dichloropropene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,1,1-Trichloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,1,2,2-Tetrachloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,1,2-Trichloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,1-Dichloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,1-Dichloroethene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,2-Dichloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
1,2-Dichloropropane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
2-Butanone	<0.00854	0.00854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
2-Hexanone	<0.0214	0.0214		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
4-Methyl-2-pentanone	<0.0214	0.0214		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Acetone	<0.0214	0.0214		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Benzene	<0.000214	0.000214		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Bromodichloromethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Bromoform	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Bromomethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Carbon disulfide	0.00129	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Carbon tetrachloride	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Chlorobenzene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Chloroethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Chloroform	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Chloromethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
cis-1,2-Dichloroethene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
cis-1,3-Dichloropropene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Dibromochloromethane	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Ethylbenzene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
m,p-Xylene	<0.00171	0.00171		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Methyl tert-butyl ether	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Methylene chloride	<0.00427	0.00427		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
o-Xylene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Total Xylenes	<0.00171	0.00171		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Styrene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Tetrachloroethene	0.0239	0.00171		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Toluene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
trans-1,2-Dichloroethene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
trans-1,3-Dichloropropene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
Trichloroethene	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6011 (12.5-15)

Matrix: SOIL

Lab ID: 1909410-008

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 5:54 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Vinyl chloride	<0.000854	0.000854		mg/Kg-dry	0.737	09/16/2019 2:21 PM	R112214
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	84.8	80-130		%Rec	0.737	09/16/2019 2:21 PM	R112214
SS: Dibromofluoromethane	101	76.1-120		%Rec	0.737	09/16/2019 2:21 PM	R112214
SS: Toluene-d8	94.7	85-115		%Rec	0.737	09/16/2019 2:21 PM	R112214
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: JLR		
Percent Moisture	14	1.0	c	wt%	1	09/18/2019 9:08 AM	R112238



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6012 (7.5-10)

Lab ID: 1909410-010

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 6:38 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,1,1-Trichloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,1,2,2-Tetrachloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,1,2-Trichloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,1-Dichloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,1-Dichloroethene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,2-Dichloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
1,2-Dichloropropane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
2-Butanone	<19.7	19.7		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
2-Hexanone	<49.3	49.3		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
4-Methyl-2-pentanone	<49.3	49.3		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Acetone	<49.3	49.3		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Benzene	<0.493	0.493		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Bromodichloromethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Bromoform	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Bromomethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Carbon disulfide	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Carbon tetrachloride	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Chlorobenzene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Chloroethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Chloroform	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Chloromethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
cis-1,2-Dichloroethene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
cis-1,3-Dichloropropene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Dibromochloromethane	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Ethylbenzene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
m,p-Xylene	<3.94	3.94		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Methyl tert-butyl ether	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Methylene chloride	<9.86	9.86		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
o-Xylene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Total Xylenes	<3.94	3.94		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Styrene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Tetrachloroethene	354	7.88		mg/Kg-dry	3747	09/10/2019 11:11 AM	R111980
Toluene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
trans-1,2-Dichloroethene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
trans-1,3-Dichloropropene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
Trichloroethene	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6012 (7.5-10)

Lab ID: 1909410-010

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 6:38 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<1.97	1.97		mg/Kg-dry	1874	09/09/2019 9:31 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	104	80-130		%Rec	1874	09/09/2019 9:31 PM	R111921
SS: Dibromofluoromethane	95.4	76.1-120		%Rec	1874	09/09/2019 9:31 PM	R111921
SS: Toluene-d8	102	85-115		%Rec	1874	09/09/2019 9:31 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	4.9	1.0	c	wt%	1	09/10/2019 3:17 PM	R111972



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6012 (12.5-15)

Matrix: SOIL

Lab ID: 1909410-011

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 6:56 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Total 1,3-Dichloropropene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,1,1-Trichloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,1,2,2-Tetrachloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,1,2-Trichloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,1-Dichloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,1-Dichloroethene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,2-Dichloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
1,2-Dichloropropane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
2-Butanone	<0.00807	0.00807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
2-Hexanone	<0.0202	0.0202		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
4-Methyl-2-pentanone	<0.0202	0.0202		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Acetone	<0.0202	0.0202		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Benzene	<0.000202	0.000202		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Bromodichloromethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Bromoform	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Bromomethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Carbon disulfide	0.00111	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Carbon tetrachloride	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Chlorobenzene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Chloroethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Chloroform	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Chloromethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
cis-1,2-Dichloroethene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
cis-1,3-Dichloropropene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Dibromochloromethane	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Ethylbenzene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
m,p-Xylene	<0.00161	0.00161		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Methyl tert-butyl ether	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Methylene chloride	<0.00404	0.00404		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
o-Xylene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Total Xylenes	<0.00161	0.00161		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Styrene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Tetrachloroethene	0.00747	0.00161		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Toluene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
trans-1,2-Dichloroethene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
trans-1,3-Dichloropropene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
Trichloroethene	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6012 (12.5-15)

Lab ID: 1909410-011

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 6:56 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: SP		
Vinyl chloride	<0.000807	0.000807		mg/Kg-dry	0.696	09/16/2019 2:51 PM	R112214
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	92.5	80-130		%Rec	0.696	09/16/2019 2:51 PM	R112214
SS: Dibromofluoromethane	101	76.1-120		%Rec	0.696	09/16/2019 2:51 PM	R112214
SS: Toluene-d8	96.8	85-115		%Rec	0.696	09/16/2019 2:51 PM	R112214
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: JLR		
Percent Moisture	14	1.0	c	wt%	1	09/18/2019 9:08 AM	R112238



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6013 (10-12.5)

Lab ID: 1909410-013

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 7:38 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,1,1-Trichloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,1,2,2-Tetrachloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,1,2-Trichloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,1-Dichloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,1-Dichloroethene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,2-Dichloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
1,2-Dichloropropane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
2-Butanone	<0.446	0.446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
2-Hexanone	<1.11	1.11		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
4-Methyl-2-pentanone	<1.11	1.11		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Acetone	<1.11	1.11		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Benzene	<0.0111	0.0111		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Bromodichloromethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Bromoform	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Bromomethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Carbon disulfide	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Carbon tetrachloride	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Chlorobenzene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Chloroethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Chloroform	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Chloromethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
cis-1,2-Dichloroethene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
cis-1,3-Dichloropropene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Dibromochloromethane	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Ethylbenzene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
m,p-Xylene	<0.0892	0.0892		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Methyl tert-butyl ether	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Methylene chloride	<0.223	0.223		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
o-Xylene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Total Xylenes	<0.0892	0.0892		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Styrene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Tetrachloroethene	1.07	0.0892		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Toluene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
trans-1,2-Dichloroethene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
trans-1,3-Dichloropropene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
Trichloroethene	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6013 (10-12.5)

Matrix: SOIL

Lab ID: 1909410-013

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 7:38 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.0446	0.0446		mg/Kg-dry	38.75	09/09/2019 8:14 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	103	80-130		%Rec	38.75	09/09/2019 8:14 PM	R111921
SS: Dibromofluoromethane	88.5	76.1-120		%Rec	38.75	09/09/2019 8:14 PM	R111921
SS: Toluene-d8	99.8	85-115		%Rec	38.75	09/09/2019 8:14 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	13	1.0	c	wt%	1	09/10/2019 4:47 PM	R111986



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6013 (12.5-15)

Matrix: SOIL

Lab ID: 1909410-014

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 7:55 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,1,1-Trichloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,1,2,2-Tetrachloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,1,2-Trichloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,1-Dichloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,1-Dichloroethene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,2-Dichloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
1,2-Dichloropropane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
2-Butanone	<0.00813	0.00813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
2-Hexanone	<0.0203	0.0203		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
4-Methyl-2-pentanone	<0.0203	0.0203		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Acetone	<0.0203	0.0203		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Benzene	<0.000203	0.000203		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Bromodichloromethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Bromoform	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Bromomethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Carbon disulfide	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Carbon tetrachloride	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Chlorobenzene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Chloroethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Chloroform	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Chloromethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
cis-1,2-Dichloroethene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
cis-1,3-Dichloropropene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Dibromochloromethane	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Ethylbenzene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
m,p-Xylene	<0.00163	0.00163		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Methyl tert-butyl ether	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Methylene chloride	<0.00407	0.00407		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
o-Xylene	0.000862	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Total Xylenes	<0.00163	0.00163		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Styrene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Tetrachloroethene	0.0108	0.00163		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Toluene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
trans-1,2-Dichloroethene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
trans-1,3-Dichloropropene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
Trichloroethene	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6013 (12.5-15)

Lab ID: 1909410-014

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 7:55 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.000813	0.000813		mg/Kg-dry	0.7	09/11/2019 1:07 PM	R112084
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	91.9	80-130		%Rec	0.7	09/11/2019 1:07 PM	R112084
SS: Dibromofluoromethane	113	76.1-120		%Rec	0.7	09/11/2019 1:07 PM	R112084
SS: Toluene-d8	102	85-115		%Rec	0.7	09/11/2019 1:07 PM	R112084
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	14	1.0	c	wt%	1	09/10/2019 4:47 PM	R111986



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6014 (7.5-10)

Matrix: SOIL

Lab ID: 1909410-016

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 8:10 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,1,1-Trichloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,1,2,2-Tetrachloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,1,2-Trichloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,1-Dichloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,1-Dichloroethene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,2-Dichloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
1,2-Dichloropropane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
2-Butanone	<8.03	8.03		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
2-Hexanone	<20.1	20.1		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
4-Methyl-2-pentanone	<20.1	20.1		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Acetone	<20.1	20.1		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Benzene	<0.201	0.201		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Bromodichloromethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Bromoform	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Bromomethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Carbon disulfide	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Carbon tetrachloride	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Chlorobenzene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Chloroethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Chloroform	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Chloromethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
cis-1,2-Dichloroethene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
cis-1,3-Dichloropropene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Dibromochloromethane	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Ethylbenzene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
m,p-Xylene	<1.61	1.61		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Methyl tert-butyl ether	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Methylene chloride	<4.01	4.01		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
o-Xylene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Total Xylenes	<1.61	1.61		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Styrene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Tetrachloroethene	118	1.61		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Toluene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
trans-1,2-Dichloroethene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
trans-1,3-Dichloropropene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
Trichloroethene	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6014 (7.5-10)

Lab ID: 1909410-016

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 8:10 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.803	0.803		mg/Kg-dry	712.6	09/09/2019 9:57 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	106	80-130		%Rec	712.6	09/09/2019 9:57 PM	R111921
SS: Dibromofluoromethane	97.8	76.1-120		%Rec	712.6	09/09/2019 9:57 PM	R111921
SS: Toluene-d8	103	85-115		%Rec	712.6	09/09/2019 9:57 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	11	1.0	c	wt%	1	09/10/2019 4:47 PM	R111986



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6014 (10-12.5)

Matrix: SOIL

Lab ID: 1909410-017

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 8:13 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,1,1-Trichloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,1,2,2-Tetrachloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,1,2-Trichloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,1-Dichloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,1-Dichloroethene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,2-Dichloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
1,2-Dichloropropane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
2-Butanone	<0.0225	0.0225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
2-Hexanone	<0.0562	0.0562	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
4-Methyl-2-pentanone	<0.0562	0.0562	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Acetone	<0.0562	0.0562	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Benzene	<0.000562	0.000562	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Bromodichloromethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Bromoform	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Bromomethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Carbon disulfide	0.00758	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Carbon tetrachloride	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Chlorobenzene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Chloroethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Chloroform	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Chloromethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
cis-1,2-Dichloroethene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
cis-1,3-Dichloropropene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Dibromochloromethane	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Ethylbenzene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
m,p-Xylene	<0.00450	0.00450	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Methyl tert-butyl ether	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Methylene chloride	<0.0112	0.0112	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
o-Xylene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Total Xylenes	<0.00450	0.00450	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Styrene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Tetrachloroethene	0.0420	0.00450	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Toluene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
trans-1,2-Dichloroethene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
trans-1,3-Dichloropropene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
Trichloroethene	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: B6014 (10-12.5)

Matrix: SOIL

Lab ID: 1909410-017

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 8:13 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<0.00225	0.00225	G	mg/Kg-dry	1.98	09/11/2019 3:12 PM	R112084
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	57.8	70-130	SG	%Rec	1.98	09/11/2019 3:12 PM	R112084
SS: Dibromofluoromethane	145	70-130	SG	%Rec	1.98	09/11/2019 3:12 PM	R112084
SS: Toluene-d8	69.9	85-115	SG	%Rec	1.98	09/11/2019 3:12 PM	R112084
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	12	1.0	c	wt%	1	09/10/2019 4:47 PM	R111986



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6015 (7.5-10)

Lab ID: 1909410-019

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 8:33 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,1,1-Trichloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,1,2,2-Tetrachloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,1,2-Trichloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,1-Dichloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,1-Dichloroethene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,2-Dichloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
1,2-Dichloropropane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
2-Butanone	<10.6	10.6		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
2-Hexanone	<26.5	26.5		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
4-Methyl-2-pentanone	<26.5	26.5		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Acetone	<26.5	26.5		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Benzene	<0.265	0.265		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Bromodichloromethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Bromoform	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Bromomethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Carbon disulfide	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Carbon tetrachloride	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Chlorobenzene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Chloroethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Chloroform	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Chloromethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
cis-1,2-Dichloroethene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
cis-1,3-Dichloropropene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Dibromochloromethane	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Ethylbenzene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
m,p-Xylene	<2.12	2.12		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Methyl tert-butyl ether	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Methylene chloride	<5.30	5.30		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
o-Xylene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Total Xylenes	<2.12	2.12		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Styrene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Tetrachloroethene	110	2.12		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Toluene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
trans-1,2-Dichloroethene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
trans-1,3-Dichloropropene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
Trichloroethene	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: B6015 (7.5-10)

Lab ID: 1909410-019

Date Received: 09/06/2019 1:20 PM

Matrix: SOIL

Collection Date: 09/05/2019 8:33 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
Vinyl chloride	<1.06	1.06		mg/Kg-dry	993.5	09/09/2019 10:22 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	103	80-130		%Rec	993.5	09/09/2019 10:22 PM	R111921
SS: Dibromofluoromethane	96.3	76.1-120		%Rec	993.5	09/09/2019 10:22 PM	R111921
SS: Toluene-d8	102	85-115		%Rec	993.5	09/09/2019 10:22 PM	R111921
PERCENT MOISTURE		Method: ASTM-D2216-Rev 2005			Analyst: CY		
Percent Moisture	6.3	1.0	c	wt%	1	09/10/2019 4:47 PM	R111986



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: MW900

Matrix: GROUNDWATER

Lab ID: 1909410-021

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 2:30 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,1,1-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,1,2,2-Tetrachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,1,2-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,1-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,1-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,2-Dibromo-3-chloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,2-Dibromoethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,2-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,2-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,2-Dichloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
1,4-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
2-Butanone	<0.0100	0.0100		mg/L	1	09/09/2019 4:49 PM	R111921
2-Hexanone	<0.0250	0.0250		mg/L	1	09/09/2019 4:49 PM	R111921
4-Methyl-2-pentanone	<0.0250	0.0250		mg/L	1	09/09/2019 4:49 PM	R111921
Acetone	<0.0250	0.0250		mg/L	1	09/09/2019 4:49 PM	R111921
Benzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Bromodichloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Bromoform	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Bromomethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Carbon disulfide	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Carbon tetrachloride	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Chlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Chloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Chloroform	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Chloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
cis-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
cis-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Dibromochloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Dichlorodifluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Ethylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Hexachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Isopropylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
m,p-Xylene	<0.00200	0.00200		mg/L	1	09/09/2019 4:49 PM	R111921
Methyl tert-butyl ether	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Methylene chloride	<0.00500	0.00500		mg/L	1	09/09/2019 4:49 PM	R111921
Naphthalene	<0.00200	0.00200		mg/L	1	09/09/2019 4:49 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: MW900

Matrix: GROUNDWATER

Lab ID: 1909410-021

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 2:30 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
o-Xylene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Total Xylenes	<0.00200	0.00200		mg/L	1	09/09/2019 4:49 PM	R111921
Styrene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Tetrachloroethene	0.0132	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Toluene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
trans-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
trans-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Trichloroethene	0.00369	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Trichlorofluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
Vinyl acetate	<0.0250	0.0250		mg/L	1	09/09/2019 4:49 PM	R111921
Vinyl chloride	<0.00100	0.00100		mg/L	1	09/09/2019 4:49 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	104	80-130		%Rec	1	09/09/2019 4:49 PM	R111921
SS: Dibromofluoromethane	106	76.1-120		%Rec	1	09/09/2019 4:49 PM	R111921
SS: Toluene-d8	103	85-115		%Rec	1	09/09/2019 4:49 PM	R111921
VOCS, EXTENDED ANALYTE LIST		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
1,4-Dioxane	<0.100	0.100		mg/L	1	09/09/2019 4:49 PM	R111921
n-Butanol	<0.100	0.100	c	mg/L	1	09/09/2019 4:49 PM	R111921



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: MW1800

Matrix: GROUNDWATER

Lab ID: 1909410-022

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,1,1-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,1,2,2-Tetrachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,1,2-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,1-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,1-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,2-Dibromo-3-chloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,2-Dibromoethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,2-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,2-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,2-Dichloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
1,4-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
2-Butanone	<0.0100	0.0100		mg/L	1	09/09/2019 5:15 PM	R111921
2-Hexanone	<0.0250	0.0250		mg/L	1	09/09/2019 5:15 PM	R111921
4-Methyl-2-pentanone	<0.0250	0.0250		mg/L	1	09/09/2019 5:15 PM	R111921
Acetone	<0.0250	0.0250		mg/L	1	09/09/2019 5:15 PM	R111921
Benzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Bromodichloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Bromoform	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Bromomethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Carbon disulfide	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Carbon tetrachloride	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Chlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Chloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Chloroform	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Chloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
cis-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
cis-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Dibromochloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Dichlorodifluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Ethylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Hexachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Isopropylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
m,p-Xylene	<0.00200	0.00200		mg/L	1	09/09/2019 5:15 PM	R111921
Methyl tert-butyl ether	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Methylene chloride	<0.00500	0.00500		mg/L	1	09/09/2019 5:15 PM	R111921
Naphthalene	<0.00200	0.00200		mg/L	1	09/09/2019 5:15 PM	R111921



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: MW1800

Matrix: GROUNDWATER

Lab ID: 1909410-022

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
o-Xylene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Total Xylenes	<0.00200	0.00200		mg/L	1	09/09/2019 5:15 PM	R111921
Styrene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Tetrachloroethene	0.00226	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Toluene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
trans-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
trans-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Trichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Trichlorofluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
Vinyl acetate	<0.0250	0.0250		mg/L	1	09/09/2019 5:15 PM	R111921
Vinyl chloride	<0.00100	0.00100		mg/L	1	09/09/2019 5:15 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	105	80-130		%Rec	1	09/09/2019 5:15 PM	R111921
SS: Dibromofluoromethane	106	76.1-120		%Rec	1	09/09/2019 5:15 PM	R111921
SS: Toluene-d8	102	85-115		%Rec	1	09/09/2019 5:15 PM	R111921
VOCS, EXTENDED ANALYTE LIST		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
1,4-Dioxane	<0.100	0.100		mg/L	1	09/09/2019 5:15 PM	R111921
n-Butanol	<0.100	0.100	c	mg/L	1	09/09/2019 5:15 PM	R111921



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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: MW1600

Matrix: GROUNDWATER

Lab ID: 1909410-023

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:30 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,1,1-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,1,2,2-Tetrachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,1,2-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,1-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,1-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,2-Dibromo-3-chloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,2-Dibromoethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,2-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,2-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,2-Dichloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
1,4-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
2-Butanone	<0.0100	0.0100		mg/L	1	09/09/2019 5:41 PM	R111921
2-Hexanone	<0.0250	0.0250		mg/L	1	09/09/2019 5:41 PM	R111921
4-Methyl-2-pentanone	<0.0250	0.0250		mg/L	1	09/09/2019 5:41 PM	R111921
Acetone	<0.0250	0.0250		mg/L	1	09/09/2019 5:41 PM	R111921
Benzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Bromodichloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Bromoform	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Bromomethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Carbon disulfide	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Carbon tetrachloride	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Chlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Chloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Chloroform	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Chloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
cis-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
cis-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Dibromochloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Dichlorodifluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Ethylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Hexachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Isopropylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
m,p-Xylene	<0.00200	0.00200		mg/L	1	09/09/2019 5:41 PM	R111921
Methyl tert-butyl ether	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Methylene chloride	<0.00500	0.00500		mg/L	1	09/09/2019 5:41 PM	R111921
Naphthalene	<0.00200	0.00200		mg/L	1	09/09/2019 5:41 PM	R111921



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: MW1600

Matrix: GROUNDWATER

Lab ID: 1909410-023

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 3:30 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
o-Xylene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Total Xylenes	<0.00200	0.00200		mg/L	1	09/09/2019 5:41 PM	R111921
Styrene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Tetrachloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Toluene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
trans-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
trans-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Trichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Trichlorofluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
Vinyl acetate	<0.0250	0.0250		mg/L	1	09/09/2019 5:41 PM	R111921
Vinyl chloride	<0.00100	0.00100		mg/L	1	09/09/2019 5:41 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	104	80-130		%Rec	1	09/09/2019 5:41 PM	R111921
SS: Dibromofluoromethane	106	76.1-120		%Rec	1	09/09/2019 5:41 PM	R111921
SS: Toluene-d8	103	85-115		%Rec	1	09/09/2019 5:41 PM	R111921
VOCS, EXTENDED ANALYTE LIST		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
1,4-Dioxane	<0.100	0.100		mg/L	1	09/09/2019 5:41 PM	R111921
n-Butanol	<0.100	0.100	c	mg/L	1	09/09/2019 5:41 PM	R111921



Suburban Laboratories, Inc.

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Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019

Workorder: 1909410

Client Sample ID: MW1300

Matrix: GROUNDWATER

Lab ID: 1909410-024

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 4:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
Total 1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,1,1-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,1,2,2-Tetrachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,1,2-Trichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,1-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,1-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,2-Dibromo-3-chloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,2-Dibromoethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,2-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,2-Dichloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,2-Dichloropropane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
1,4-Dichlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
2-Butanone	<0.0100	0.0100		mg/L	1	09/09/2019 4:24 PM	R111921
2-Hexanone	<0.0250	0.0250		mg/L	1	09/09/2019 4:24 PM	R111921
4-Methyl-2-pentanone	<0.0250	0.0250		mg/L	1	09/09/2019 4:24 PM	R111921
Acetone	<0.0250	0.0250		mg/L	1	09/09/2019 4:24 PM	R111921
Benzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Bromodichloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Bromoform	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Bromomethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Carbon disulfide	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Carbon tetrachloride	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Chlorobenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Chloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Chloroform	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Chloromethane	0.00145	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
cis-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
cis-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Dibromochloromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Dichlorodifluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Ethylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Hexachloroethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Isopropylbenzene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
m,p-Xylene	<0.00200	0.00200		mg/L	1	09/09/2019 4:24 PM	R111921
Methyl tert-butyl ether	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Methylene chloride	<0.00500	0.00500		mg/L	1	09/09/2019 4:24 PM	R111921
Naphthalene	<0.00200	0.00200		mg/L	1	09/09/2019 4:24 PM	R111921



Suburban Laboratories, Inc.

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Pioneer Engineering & Environmental Services L
Project Name: 19-0338-101 7613 Lake St River Forest

Report Date: September 20, 2019
Workorder: 1909410

Client Sample ID: MW1300

Matrix: GROUNDWATER

Lab ID: 1909410-024

Date Received: 09/06/2019 1:20 PM

Collection Date: 09/05/2019 4:00 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96			Analyst: mkl		
o-Xylene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Total Xylenes	<0.00200	0.00200		mg/L	1	09/09/2019 4:24 PM	R111921
Styrene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Tetrachloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Toluene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
trans-1,2-Dichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
trans-1,3-Dichloropropene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Trichloroethene	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Trichlorofluoromethane	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
Vinyl acetate	<0.0250	0.0250		mg/L	1	09/09/2019 4:24 PM	R111921
Vinyl chloride	<0.00100	0.00100		mg/L	1	09/09/2019 4:24 PM	R111921
<u>Internal Quality Control Compounds</u>							
SS: 4-Bromofluorobenzene	105	80-130		%Rec	1	09/09/2019 4:24 PM	R111921
SS: Dibromofluoromethane	106	76.1-120		%Rec	1	09/09/2019 4:24 PM	R111921
SS: Toluene-d8	104	85-115		%Rec	1	09/09/2019 4:24 PM	R111921
VOCS, EXTENDED ANALYTE LIST		Method: EPA-8260B-Rev 2, Dec-96			Analyst: mkl		
1,4-Dioxane	<0.100	0.100		mg/L	1	09/09/2019 4:24 PM	R111921
n-Butanol	<0.100	0.100	c	mg/L	1	09/09/2019 4:24 PM	R111921

**Suburban Laboratories, Inc.**

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

PREP DATES REPORT

Client: Pioneer Environmental Services LLC
Project: 19-0338-101 7613 Lake St River F

Report Date: September 20, 2019
Lab Order: 1909410

Sample ID	Collection Date	Batch ID	Prep Method	Prep Test Name	TCLP Date	Prep Date
1909410-001A	9/5/2019 3:16:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-001C		61866	1311ZHE	TCLP SAMPLE PREP ZHE (VOCS)		9/18/2019
1909410-002A		61795	5035PR	CLOSED SYSTEM P&T VOC Prep		9/16/2019
1909410-003A	9/5/2019 3:51:00 PM	61795	5035PR	CLOSED SYSTEM P&T VOC Prep		9/16/2019
1909410-003C		61866	1311ZHE	TCLP SAMPLE PREP ZHE (VOCS)		9/18/2019
1909410-004A	9/5/2019 4:24:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-007A	9/5/2019 5:35:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-008A	9/5/2019 5:54:00 PM	61795	5035PR	CLOSED SYSTEM P&T VOC Prep		9/16/2019
1909410-010A	9/5/2019 6:38:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-011A	9/5/2019 6:56:00 PM	61795	5035PR	CLOSED SYSTEM P&T VOC Prep		9/16/2019
1909410-013A	9/5/2019 7:38:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-014A	9/5/2019 7:55:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-016A	9/5/2019 8:10:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-017A	9/5/2019 8:13:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019
1909410-019A	9/5/2019 8:33:00 PM	61667	5035PR	CLOSED SYSTEM P&T VOC Prep		9/6/2019



Qualifiers:

*X	Value exceeds Maximum Contaminant Level
B	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in SLI scope of accreditation
E	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.



12780

THE

Page 3 of 43
PO No. 40

Shipping Method	Page
-----------------	------

Reporting Level (at additional charge)	1	2
LAB USE ONLY		

SLU ORDER NO. 1909411

supplied by customer?	☒
Temperature of Received Samples	5

Samples received the same day as collection? ☐		
R	Condition	Split

[illegible][illegible]

CONDITION CODES

1. Improper/damaged container/case
2. Improper preservation

3. Insufficient sample volume
4. Headspace/air bubbles for VOC
5. Received past holding time

6. Received frozen	
7. Label conflicts with COC	
	Date

Time

ice

present

Present | **Present-Original, Pink-Sample**



SUBURBAN LABORATORIES, Inc.

CHAIN OF CUSTODY RECORD

#

127848

1950 S. Batavia Ave., Ste 150, Geneva, IL 60134

Tel. 708.544.3260

Fax: 708.544.8587

Toll Free: 800.783.LABS

www.suburbanlabs.com

Company Name

Pioneer Eng. & Env. Services LLC

Company Address

3153 W. 31st St.,

City

Chicago

State

IL

Zip

60608

Phone

(773) 732-9200

Fax

Email Address

mueller@pioneereng.com

Final Report

Project ID / Location
19-03338-101/7413 Lake St, River

Project Manager (Report to)

Myerlan Ubelli-Packo

Sample Collector(s) Name

W. J. P. / B. Stone

Turnaround Time Requested

☐ Normal ☐ RUSH* Additional Rush Charges Approved.

Date & Time Needed:

Normal TAT is specified on the price quotation or fee schedule. Rush work must be pre-approved and additional charges apply.

Specify Regulatory Program:

☐ LUST ☒ SRP ☐ SDWA

☐ 503 Sludge ☐ NPDES ☐ MWRDGC

☐ Disposal ☐ Other* Please specify in comment section below.

ANALYSIS & METHOD REQUESTED

Enter an "X" in box below for request

Shipping Method

Page 2 of 3

PO No.

Page 41

Reporting Level (at additional charge)

1 2 3 4

LAB USE ONLY

SL ORDER No. 1909410

Sample containers supplied by customer?

☐ Yes

Temperature of Received Samples

5 °C

Samples received the same day as collection?

☐ Yes

R Condition

Soil LAB #

1 B6013(10-12.5)

9.5.19.1955 5

2 B6013(12.5-15)

1.1.1958

3 B6014(12.5-5)

1.1.2010

4 B6014(7.5-10)

1.1.2013

5 B6014(10-12.5)

1.1.2015

6 B6015(2.5-5)

1.1.2031

7 B6015(7.5-10)

1.1.2033

8 B6015(10-12.5)

1.1.2035

9

1.1.

10

1.1.

11

1.1.

12

1.1.

COMMENTS & SPECIAL INSTRUCTIONS:

Former Dry Cleaning Facility

CONDITION CODES

1. Improper/damaged container/cap

2. Improper preservation

3. Insufficient sample volume

4. Headspace/air bubbles for VOCs

5. Received past holding time

6. Received frozen

7. Label conflicts with COC

1. Relinquished By

9.6.19

Date

9.5-19

2. Relinquished By

9.6.19

Date

5.6.19

3. Relinquished By

9.6.19

Date

5.6.19

4. Relinquished By

9.6.19

Date

5.6.19

Submission of samples subject to Terms and Conditions on back.

Rev. 07/20/08

White-Original, Pink-Sampler Copy



SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Ste 150, Geneva, IL 60134

Tel. 708.544.3260

Fax: 708.544.8587

Toll Free: 800.783.LABS

www.suburbanlabs.com

CHAIN OF CUSTODY RECORD

#

127851

Company Name

Turnaround Time Requested

Company Address

City

State

Zip

Phone

Fax

Report

Email Address

Project ID / Location

Project Manager (Report to)

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

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Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Sample Collector(s) Name

Normal ☐ Rush* ☐

*Additional Rush Charges Approved.

Date & Time Needed:

Normal TAT is specified on the price quotation or fee schedule.

Rush work must be pre-approved and additional charges apply.

Specify Regulatory Program: ☐ None/Info Only

(Required) ☐ LUST ☐ SRP ☐ SDWA

☐ 503 Sludge ☐ NPDES ☐ MWRDGC

☐ Disposal ☐ Other* ☐

*Please specify in comment section below.

ANALYSIS & METHOD REQUESTED

Enter an "X" in box below for request

Shipping Method

Reporting Level (at additional charge)

1 2 3 4

LAB USE ONLY

SU ORDER No.

Sample containers supplied by customer?

Temperature of Received Samples

Samples received the same day as collection?

R Condition Split LAB #

5 °C

5

5

5

5

5

5

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MATRIX: Drinking Water (DW), Soil (S), Waste Water (WW), Surface Water (SW), Ground Water (GW), Solid Waste (WA), Sludge (U), Wipe (P) CONTAINER: 2oz, 4oz, 8oz, 40ml Vial, 500ml, Liter (L), Tube, Glass (G), Plastic (P) PRESERVATIVE: H₂SO₄, HCl, HNO₃, Methanol (MeOH), NaOH, Sodium Bisulfate (NaB), NaTHio

COMMENTS & SPECIAL INSTRUCTIONS:

Former Dry Cleaning Facility

CONDITION CODES

1. Improper/damaged container/cap
2. Improper preservation
3. Insufficient sample volume
4. Headspace/air bubbles for VOCs
5. Received past holding time
6. Received frozen
7. Label conflicts with COC

1. Relinquished By

Date

2. Relinquished By

Date

3. Relinquished By

Date

4. Relinquished By

Date

Received By

Date

Received By

Date

Received By

Date

Received By

Date

present

Time

present

Time

present

Time

present

Time

Submission of samples subject to Terms and Conditions on back.

Rev. 07/20/08

White-Original, Pink-Sampler Copy

Keith Sinon

1909 410

From: Megan Wells-Paske <mwellspaske@pioneerrees.com>
Sent: Friday, September 13, 2019 4:16 PM
To: Keith Sinon
Subject: Re: SLI Report and Invoice Attached for Workorder: 1909410; Project Name: 19-0338-101 7613 Lake St River Forest

Hi Keith,
Based on these results, if you have enough volume remaining, please run:

B-6002 (10-12.5) - 1909410-001 for TCLP VOCs.

Also, please run the following HOLD samples:

B-6002 (12.5-15) - 1909410-002 for VOCs

B-6010 (2.5-5) - 1909410-003 for VOCs & TCLP VOCs

B-6011 (12.5-15) - 1909410-008 for VOCs

B-6012 (12.5-15) - 1909410-011 for VOCs

Thank you.

Megan Wells-Paske | *Senior Project Manager*

Pioneer Engineering & Environmental Services, LLC
2753 West 31st Street, Chicago, Illinois 60608

Phone: 773.722.9200 x202 **Fax:** 773.722.9201 **Web:** PioneerEES.com

CELEBRATING 30 YEARS | 1989 – 2019

Thank you for your continued support!

On Sep 13, 2019, at 2:47 PM, Keith Sinon <keith@suburbanlabs.com> wrote:

Pioneer Environmental Services LLC
19-0338-101 7613 Lake St River Forest
Workorder: 1909410

Please review the attached report and invoice.

Thank you for choosing Suburban Laboratories for your analytical project.

Keith Sinon
Project Manager
(708) 544-3260 ext. 212
Suburban Laboratories, Inc

Appendix F SSL Equation S29 Spreadsheet

Spreadsheet 1 - SSL Equation S29
Site-Specific Soil Saturation Limit for PCE
River Forest Cleaners
7601-7621 Lake Street, River Forest, IL

Contaminant of Concern	PCE
SSL Parameters	Subsurface
foc (Organic Carbon Content) - g/g Surface Soil = 0.006; Subsurface Soil = 0.002; or Site Specific	0.0081
S (Solubility in Water) - mg/L Chemical Specific	2.00E+02
Θ_w (Water Filled Porosity) - L_{water}/L_{soil} Surface Soil (top 1 meter) = 0.15, Subsurface Soil (below 1 meter) = 0.30 or Gravel = 0.20, Sand = 0.18, Silt = 0.16, Clay = 0.17 or Calculated	0.3
Θ_a (Air Filled Porosity) - L_{pore}/L_{soil} Surface Soil (top 1 meter) = 0.28, Subsurface Soil (below 1 meter) = 0.13 or Gravel = 0.05, Sand = 0.14, Silt = 0.24, Clay = 0.19 or Calculated	0.13
ρ_b (Dry Soil Bulk Density) - kg/L or g/cm ³ 1.5 or Gravel = 2.0, Sand = 1.8, Silt = 1.6, Clay = 1.7 or Site Specific	1.5
Koc (Organic Carbon Partition Coef) - cm ³ /g or L/kg Chemical Specific	6.31E+02
H' (Henry's Law Constant) - unitless Chemical Specific	7.38E-01
SSL Equations	
Soil-Water Partition Coefficient (Kd) - cm ³ /g or L/kg S19 $K_d = K_{oc} * f_{oc}$:	5.11
Soil Saturation Limit (C _{sat}) - mg/kg S29 $C_{sat} = S / \rho_b * [(K_d * \rho_b) + \Theta_w + (H' * \Theta_a)]$:	1075.012
Site Specific C_{sat} (mg/kg - ppm):	1,075



PIONEER
Engineering & Environmental Services, LLC