Periodic Review Report No. 4
September 30, 2016 – September 30, 2017
Clinton West Plaza (755015)

Ithaca
Tompkins County, New York

Prepared for

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7017

Prepared by

EA Engineering, P.C. and Its Affiliate
EA Science and Technology
6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211
(315) 431-4610

October 2017
Version: DRAFT
EA Project No. 14907.25

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(315) 431-4610

FINAL TO BE SIGNED

Donald Conan, P.E. DATE
Vice President

FINAL TO BE SIGNED

Christopher J. Schroer DATE

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I, Donald Conan, certify that I am currently a New York State registered Professional Engineer and this Periodic Review Report was prepared in accordance with all applicable statutes and regulations, and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved Work Plan and any DER-approved modifications.

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

(a) The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by DER.

(b) Nothing has occurred that would impair the ability of such control to protect public health and the environment.

(c) Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control.

(d) Access to the site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control.

_____ XX October 2017_____

Signature Date

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LIST OF ACRONYMS AND ABBREVIATIONS

AzTech	AzTech Technologies
AWQS	Ambient water quality standard
bgs	Below ground surface
cis-1,2-DCE	cis-1,2-dichloroethene
COC	Contaminant of concern
CVOC	Chlorinated volatile organic compound
DER	Division of Environmental Remediation
DO	Dissolved oxygen
EA	EA Engineering, P.C. and Its Affiliate EA Science and Technology
EC	Engineering control
FER	Final engineering report
ft	Feet (foot)
GES	Groundwater & Environmental Services, Inc.
HRC®	Hydrogen release compound
IC	Institutional control
lb	Pound(s)
lb/ft	Pound(s) per foot
LCS	Lender Consulting Services, Inc.
mg/L	Micrograms per liter
No.	Number
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and maintenance
ORP	Oxidation reduction potential
PCE	Tetrachloroethene
PDI	Pre-design investigation
PFE	Pressure field extension
PRR	Periodic review report
RD	Remedial design

RI	Remedial investigation
ROD	Record of decision
SCG	Standards, criteria, and guidance
SCO	Soil cleanup objectives
SMP	Site management plan
SSDS	Sub-slab depressurization system
TCE	Trichloroethene
TOC	Total organic compound
µg/L	Microgram per liter
µg/m^3	Micrograms per cubic meter
VC	Vinyl chloride
VI	Vapor intrusion
VOC	Volatile organic compound

EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C. and its affiliate EA Science and Technology (EA) to provide site management services from October 1, 2016 through September 30, 2017 at the Clinton West Plaza site (Site Number [No.] 755015) in Ithaca, Tompkins County, New York (**Figure 1**). This Work Assignment is being conducted under NYSDEC Standby Engineering Services Contract No. D007624-25.

Post-closure monitoring and maintenance program activities were conducted at the Clinton West Plaza site in December 2016 in accordance with the New York State Inactive Hazardous Waste Disposal Site Remedial Program and as stipulated in the Record of Decision (NYSDEC 2010)[1] and Site Management Plan (EA 2014)[2].

ES.1 REMEDY EVALUATION

Groundwater Monitoring

During the monitoring period, one round of groundwater sampling was completed in December 2016 which included eleven monitoring wells associated with the enhanced bioremediation remedial action completed in November 2011. Groundwater data generated during this reporting period show a decreasing trend for cis-1,2- dichloroethene (DCE) and vinyl chloride (VC) at monitoring locations TPMW-03 and TPMW-4, as well as a continued increasing trend at MMW-01. Historically, performance monitoring data identified an overall decreasing trend for cis-1,2-DCE and VC through June 2013. Continued detections of these daughter compound concentrations would suggest that dechlorination processes are still actively occurring in site groundwater but may be stagnating or "stalling" preventing the continued degradation of the contaminant mass to benign daughter compounds (e.g., ethene). As previously reported, this suggests that enhanced bioremediation may be entering a state of "stall" or slowdown in the shallow aquifer system3.

Microbial populations capable of anaerobic dechlorination of the Chlorinated volatile organic compound (CVOCs) were identified at the site during the Pilot Study Conceptual Design Report (EA 2011)[4], and were observed to increase during the post-monitoring period immediately following injection of the substrate material. However, no recent data has been generated to gauge the abundance of these populations since May 2012. Cis-1,2-DCE or VC "stall" is an informal term typically used to describe CVOC sites that exhibit sequential anaerobic dechlorination of tetrachloroethene (PCE) and trichloroethene (TCE) to cis-DCE or VC, but

[1] NYSDEC. 2010. *Record of Decision.* Clinton West Plaza, Ithaca, Tompkins County, Site Number 755015. December.
[2] EA. 2014. *SMP. Final – Revision No.1.* Clinton West Plaza, Tompkins County, New York. June.
[3] EA. 2016. *Periodic Review Report No. 3.* Clinton West Plaza (755015), Ithaca, Tompkins County, New York. October.
[4] EA. 2011. *Pilot Study Conceptual Design Report.* Clinton West Plaza (755015), Ithaca, Tompkins County, New York. September.

where the degradation of cis-DCE or VC stalls out (i.e., the cis-DCE or VC concentrations do not appear to be converting to VC or ethene).

A stall or slowdown condition, can be attributed to a number of factors, including the following:

- Lack of the necessary microbiological communities required to degrade cis-DCE to VC.
- Conditions sufficiently anaerobic to support the conversion of TCE to cis-DCE, but not sufficiently anaerobic (i.e., sulfate-reducing to methanogenic) to support the conversion of cis-DCE to VC via anaerobic dechlorination. This may simply be due to a lack of sufficient electron donor.

A shift in the ratio of primary CVOCs (PCE/TCE) to dechlorination products due to dynamic inconsistency, where parent CVOCs degrade at a faster rate than dechlorination products and concentrations of dechlorination products increase (apparent stall). As parent CVOCs are depleted over time, degradation of dechlorination products may be sufficient to reduce concentrations and the reverse the apparent stall. It is also noted that post-monitoring data generated during the pilot study, and up until June 2013, identified the generation of ethenes within the aquifer when those compounds were included in the monitoring program. Samples were analyzed for methane/ethane/ethene during this monitoring period (December 2016).

A positive indicator for continued dechlorination was observed during the December 2016 groundwater event based on concentrations of methane/ethane/ethene within the aquifer. Continued production of ethane/ethene indicates that CVOCs are still being degraded to innocuous end products. Concentrations observed were within the same order of magnitude as those observed in 2012 within the targeted treatment zones.

The December 2016 groundwater sampling event also included the collection and analysis of groundwater samples for total organic carbon (TOC) to further assess natural attenuation conditions. TOC concentrations have been declining within the aquifer since peak levels were observed in the November/December 2011 timeframe. Concentrations for TOC in TPMW-3 (11.5 milligrams per liter [mg/L]), TPMW-4 (15 mg/L), and MMW-01 (13.8 mg/L) were less than 20 mg/L, which is considered unfavorable for sustaining dechlorination of CVOCs.

Based upon the data generated during this monitoring period, the enhanced anaerobic bioremediation groundwater remedy appears to have begun to slow down. December 2016 TOC concentrations are approaching baseline conditions prior to substrate injection and were all less than 20 mg/L, suggesting that additional substrate injections are warranted to further stimulate the bioremediation processes as initially recommended in the 2015 Periodic Review Report (EA 2015)[5]. A potential augmentation or enhancement may be implemented to further reduce contaminant mass of CVOCs within the aquifer while progressing toward remedial endpoints.

[5] EA. 2015. Periodic Review Report No. 2 September 13, 2014 – September 29, 2015 Clinton West Plaza (755015). Clinton West Plaza, Tompkins County, New York. December.

The next annual groundwater monitoring event is scheduled to be completed in November/December 2017.

Indoor Air Monitoring

Indoor air monitoring was completed in December 2016 during this reporting period. Currently, onsite and offsite indoor air monitoring is planned to occur during the upcoming (November/December 2017) heating season. Results of the indoor air sampling will be issued to NYSDEC and New York State Department of Health (NYSDOH) upon completion of data validation.

Site Inspection and Maintenance

At present, the site cover continues to provide protection to human health and the environment from subsurface contaminants.

The existing onsite sub-slab depressurization system (SSDS) was not observed to be operational during this reporting period. However, the property is under new ownership and is required to maintain and operate the SSDS if the building is occupied. A SSDS was installed in June 2015 at an offsite private residence at the request of the NYSDOH; this system was operational throughout the monitoring period.

ES.2 RECOMMENDATIONS

- Site management tasks should continue during the next reporting period. This includes semi-annual site inspections, maintenance (as needed), semi-annual groundwater monitoring and sampling, and annual offsite indoor air monitoring.

- To better understand the current development and status of the microbiological community structure; additional microbiological data should be collected and evaluated.

- In order to provide a comprehensive evaluation of groundwater natural attenuation processes, additional analytical suites (ethenes, nitrates, total organic compound, etc.) should be included for the groundwater samples collected during the next monitoring period.

- If data indicates a lack of sufficient electron donors within the aquifer, a second substrate injection event over a smaller portion of the impacted area should be completed to further enhance dechlorination and erode the total contaminant mass.

- Evaluate if bioaugmentation can potentially be used to stimulate and expedite complete dechlorination.

- The offsite SSDS located within a private residence should be inspected and tested for operational functionality within the next reporting period during the 2016–2017 heating season.

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1. INTRODUCTION

A periodic review process is commonly implemented at environmental remediation sites to evaluate the effectiveness of the selected remedy and to determine if the remedy continues to be protective of human health and the environment, as set forth in the Site Management Plan (SMP). The objectives of the periodic review for sites in the State Superfund Program are as follows:

- Evaluate if chosen remedy is performing properly and effectively and is protective of public health and the environment
- Determine compliance with the Record of Decision (ROD) and the SMP
- Evaluate treatment system and recommend repairs, if necessary
- Evaluate the current state and condition of the remedy
- Determine that the intent of the institutional controls (IC) continues to be met, the engineering controls (EC) remain in place, and both are effective and protect public health and the environment
- Evaluate the operation and maintenance (O&M) costs of the remedy.

1.1 SITE BACKGROUND

The 2.49 acre site is commercially developed with an active 36,254 feet (ft) shopping plaza that was constructed in 1970 and is currently owned by Clinton West, Ltd.[2] The site is surrounded by residential neighborhoods and a retail property (**Figure 2**). A laundromat, Clinton West Laundry, was located at 609 West Clinton Street within the Clinton West Plaza, but is no longer operational, and the space is vacant. Residential structures are located immediately southwest and east of the property. The site includes large parking areas paved with asphalt.

The Clinton West Plaza site was initially reported as a potential site with contamination after First Niagara Bank of Rochester, New York retained Lender Consulting Services, Inc. (LCS) of Buffalo, New York to conduct an Environmental Transaction Screening, Environmental Site Assessment Report in December 2005 (LCS 2006)[6]. The Environmental Site Assessment report concluded that a Phase II investigation was warranted to assess the environmental conditions onsite due to the former operational history of a dry cleaner at this site. LCS completed the Phase II subsurface investigation and supplemental subsurface investigations, and determined that soil and groundwater contamination associated with dry cleaning chemicals, notably tetrachloroethene (PCE), existed at the site. PCE is a solvent commonly used in the dry cleaning process. Based on the findings of the Phase II investigation, the site was listed on the New York

[6] LCS. 2006. *Subsurface Soil and Groundwater Investigation and Supplemental Subsurface Soil and Groundwater Investigation*. West Clinton Plaza, 609-625 West Clinton Street, Ithaca, New York. May.

State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Disposal Sites in New York State as a Class 2 site in December 2007.

1.2 REMEDIAL HISTORY

A remedial investigation (RI) was performed to characterize the nature and extent of contamination at the site. The RI/Feasibility Study report prepared by Fagan Engineers (2009)[7] for the Clinton West Plaza site is summarized below:

- No onsite soil source for chlorinated volatile organic compounds (CVOCs) was identified or delineated during the RI, and the report suggests that CVOC soil concentrations detected greater than site standards, criteria, and guidance (SCGs) values were likely related to elevated CVOC groundwater concentrations.

- Groundwater concentrations of CVOCs have been reported greater than site SCGs dating back to 2006. Two groundwater sampling events (2008 and 2009) conducted during the RI identified a dissolved-phase CVOC plume in an area south of the former dry cleaners building.

- Soil vapor intrusion (VI) sampling identified an exceedance of New York State Department of Health (NYSDOH) Air Guideline for PCE within the current laundry facility.

- The Feasibility Study recommended the selection of Alternative 5, which included installation of a sub-slab depressurization system (SSDS), a pre-design investigation, source area chemical-oxidation, injection of a hydrogen release compound (HRC®), implementation of ICs, and long-term monitoring.

NYSDEC issued a ROD for the Clinton West Plaza site in May 2010. The selected remedy detailed in the ROD included a remedial design (RD) program that would provide details necessary for the construction, and O&M of the overall remedial program. The selected remedy included injection of chemical-oxidants, enhanced anaerobic bioremediation, the installation of a sub-slab vapor mitigation system at the laundry tenant space, cover system over all vegetated areas, implementation of ICs in the form of an environmental easement, and development of a SMP should contamination remain in place.

EA completed a supplemental pre-design investigation (PDI) in April 2011. Samples were collected from media that included subsurface soil, groundwater, and microbial populations and community structures. Further details on the historical and pre-design investigation results are provided in the Pilot Study Conceptual Design Report (EA 2011)[3].

[7] Fagan Engineers. 2009. *Remedial Investigation Feasibility Study Report.* Clinton West Plaza, 609-625 West Clinton Street, Ithaca, New York. July.

Highlights from the pre-design investigation:

- Subsurface soil samples collected during the pre-design investigation and during historical investigations south of the facility reported concentrations of volatile organic compounds (VOCs) that exceeded Site Cleanup Objectives (SCOs). The subsurface soil areas of concern identified were located within a low-permeability soil unit identified during soil boring advancement (e.g., gray clay) and were likely the result of dense non-aqueous phase liquid mass diffusion processes.

- CVOC groundwater impacts were identified in six wells at concentrations greater than applicable SCG values. The highest concentrations of total CVOCs ranged from 2,016 (TPMW-3) to 192.1 micrograms per liter (µg/L) (MMW-01). Based upon groundwater data collected in May 2010, the estimated groundwater contaminant plume covered approximately 0.13 acre and extended to an approximate depth of 20 feet (ft) below ground surface (bgs).

- Analysis of the *in situ* microbiological populations during the pre-design investigation indicated that community structure was dominated by methanogens, but also identified existing populations of known dechlorinating bacteria (i.e., *Dehalococcoides*, *Dehalobacter*, and *Desulfuromonas*).

- Analysis of natural attenuation parameters indicated that anaerobic conditions were present within the dissolved-phase groundwater plume and reductive dechlorination appeared to be occurring. The pre-design investigation data suggested that methanogenesis was occurring at the site and that available hydrogen may have been a limiting factor in the development of favorable dechlorinating bacteria populations.

1.2.1 Summary of Remedial Actions

The site was remediated in accordance with the NYSDEC-approved Pilot Study Conceptual Design Report (EA 2011)[3] and the Pre-Design Investigation and Pilot Study Program Letter Work Plan (EA 2010)[8].

The following is a summary of the remedial actions performed at the site:

- Installation of a SSDS, as an interim remedial measure (IRM), as outlined in the ROD (NYSDEC 2010)[1], in the Clinton West Laundry tenant space located at 609 West Clinton Street, Ithaca, New York.

- Injection of 3,600 pounds (lb) of HRC® substrate at 36 injection points at a loading rate of 5 lb/ft using direct-push technology to a depth of 25 ft bgs.

[8] EA. 2010. *Pre-Design Investigation and Pilot Study Program Letter Work Plan.* December.

- Preparation for execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.

- Other major remedial elements including all ICs listed:

  — Compliance with an Environmental Easement and the SMP

  — All ECs must be operated and maintained as specified in the SMP

  — All ECs on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP

  — Groundwater and indoor air monitoring must be performed as defined in the SMP

  — Data and information pertinent to site management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP.

- Development and implementation of a SMP for long-term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) ICs and ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting.

Remedial activities were completed at the site in February and November 2011. Baseline and post-injection groundwater monitoring was performed from October 2011 through July 2014. No contaminated materials were removed from the site.

1.2.1.1 Vapor Intrusion Cleanup Remedy

Results of the RI indicated that due to the presence of CVOCs in groundwater and soil vapor, potential existed for human health exposure via the VI pathway. Site contaminants addressed through the remedy selection process were PCE, TCE, cis-1,2-DCE, and VC. As outlined in the ROD (NYSDEC 2010)[1], the selected remedial alternative required the installation of a SSDS to mitigate the potential for VI at the Clinton West Laundry facility. The design and installation of this element of the ROD were conducted as an IRM to mitigate the potential for human health exposure to site related contaminants. Since 2011, offsite soil VI monitoring was continued at one residential structure located to the southeast of the former dry cleaners location.

NYSDEC initiated the IRM using an existing standby Remedial Contractor, Groundwater & Environmental Services, Inc. (GES), to perform the SSDS installation activities. A pre-design pressure field extension (PFE) test was completed on December 9, 2010. Based on the PFE test, EA issued a memorandum to NYSDEC indicating that SSDS would be a suitable technique to mitigate the potential for VI at the Clinton West Laundry facility. Following NYSDEC approval, GES, under the supervision of EA, installed the system fan, interior and exterior piping, and exterior system discharge on February 7, 2011.

In February 2015, the NSYDOH recommended that the offsite residence be mitigated for potential occurrence of soil vapor intrusion based on analytical results. The NYSDEC and EA initiated the IRM and solicited a remedial contractor, AzTech Technologies (AzTech), to perform the SSDS installation activities. AzTech completed a PFE test on June 15, 2015. Based on the PFE test, EA supervised the installation of the SSDS to mitigate the potential for VI at the offsite residence and AzTech, under the supervision of EA, installed the system fan, interior and exterior piping, and exterior system discharge on June 17, 2015.

1.2.1.2 Soil and Groundwater Cleanup Remedy

Based on the approved Pilot Study Conceptual Design Report (EA 2011)[3], and Pre-Design Investigation and Pilot Study Program Letter Work Plan (EA 2010)[1], EA completed the subsurface injection of an organic substrate (HRC®) to stimulate direct anaerobic reductive dechlorination of CVOCs present in groundwater at the site.

In order to enhance *in situ* anaerobic reductive dechlorination of CVOCs in groundwater, a sufficient mass of organic substrate was required to meet electron acceptor demands of both native (inorganic) and CVOCs within the targeted treatment zone. HRC® is an ester of glycerol, a three-carbon polyalcohol, and lactic acid. Once injected into the subsurface, HRC® slowly releases lactic acid, which undergoes fermentation, generating molecular hydrogen and a series of carboxylic acids that act as electron donors for utilization by bacteria that carryout reductive dechlorination.

Groundwater samples were collected from a network of eleven monitoring wells within the targeted treatment zone during six monitoring events (three monthly, followed by three quarterly events from November 2011 through October/November 2012). Data were compared to results from a baseline monitoring event, as well as previous investigations completed in October 2011 prior to the substrate injection. Further details on the enhanced anaerobic bioremediation process and implementation at the site are provided in the Enhanced Anaerobic Bioremediation Pilot Study Summary Report (EA 2013)[9].

1.2.1.3 Remaining Contamination

During the post-remedial action performance monitoring period, concentrations of CVOCs were consistently reported in treatment zone monitoring locations located south and southwest of the treatment zone. Results from post-injection groundwater sampling indicated that concentrations of PCE and TCE were significantly (92–100 percent reductions) reduced within the treatment zone. PCE and TCE were not detected at other monitoring locations within the treatment zone; suggesting the substrate injection process did not displace impacted groundwater to areas inside or outside of the target treatment zone.

[9] EA. 2013. Enhanced Anaerobic Bioremediation Pilot Study Summary Report. Clinton West Plaza (755015) Ithaca, Tompkins County, New York. March.

However, groundwater analytical results from the October/November 2012 sampling event indicated that site contaminants of concern (COCs) remained at concentrations greater than their relevant SCGs. Additionally, daughter compounds commonly produced during the anaerobic reductive dechlorination process were consistently detected at site monitoring wells during post-injection monitoring. Groundwater data show that these compounds increased in concentration following the injection event and steadily decreased sequentially at each monitoring location. Although, site-related COCs were identified within subsurface soil during previous investigations, soil samples were collected from depth intervals within the saturated zone, and therefore, are likely not solely representative of the subsurface soil conditions, but include the contaminant fraction from groundwater. Under the remedial action performed at the Clinton West Plaza site, potential impacts to soil were addressed as part of the groundwater remedial action. Based on the previous soil sampling data and reductions in CVOC concentrations observed in groundwater, residual contamination in subsurface soil is expected to be minimal and treated concurrently with groundwater. It was anticipated that future groundwater monitoring would identify the potential and significance of residual soil contamination. If groundwater monitoring results indicated a potential for a continuing soil source additional injection events could be implemented under the SMP (EA 2014)[2].

Since contaminated groundwater remains at the site after completion of the remedial action, ECs and ICs were required to protect human health and the environment. These ECs and ICs are fully described in the SMP. Long-term management of these ECs and ICs, and residual contamination will continue to be inspected/monitored under the SMP (EA 2014)[2].

1.2.1.4 Final Engineering Report

The Final Engineering Report (FER) (EA 2013)[10] was completed in September 2013 and details the remedial activities conducted at the Clinton West Plaza site.

1.2.1.5 Site Management Plan

The SMP (EA 2013)[11] was originally completed in September 2013 and detailed the future management of the Clinton West Plaza site. The SMP (EA 2014)[2] was revised in June 2014 to include the addition of the SSDS operation management plan as an appendix. A full copy of the SMP (EA 2014)[2] is provided in **Appendix A**.

1.3 SITE GEOLOGY AND HYDROGEOLOGY

The site is located in the Appalachian Uplands Physiographic Province where local topographic features result from glacial and fluvial processes. The site is located 1.5 miles south of Cayuga Lake and is approximately 300 ft northeast of Six Mile Creek which flows northward to Cayuga Inlet and Cayuga Lake. The site topography and surrounding area is relatively flat.

[10] EA. 2013. Clinton West State Superfund Site. Tompkins County, Ithaca, New York. NYSDEC Site No. 755015. September
[11] EA. 2013. SMP. Final. Clinton West Plaza, Tompkins County, New York. September.

The upper foot of soil is comprised primarily of topsoil, sand, and gravel, underlain by a layer of brown clay with fine sands, trace silts, and some organics to depths ranging from 2 to 7 ft bgs. Underlying the brown clay unit is a layer of brown sand with trace silts ranging from 1 to 6 ft inches thickness (averaging approximately 2.5 to 3 ft inches thickness). Underlying the brown sand unit is a distinct gray clay unit, which was observed to the termination depths of a majority of the soil borings (approximately 16 to 20 ft bgs). The gray clay unit was typically 10+ ft inches thickness. A brown fine to medium sand was observed below the gray clay in western portions of the site. Additionally, a peat layer was encountered at approximately 19 ft bgs in the southernmost portion of the site.

Groundwater has been encountered onsite at depths ranging from approximately 2 ft to 5 ft bgs. Groundwater depth at the site is considered shallow and could potentially be influenced by temporal changes and seasonal precipitation events. Based on groundwater gauging data, shallow groundwater has been estimated to generally flow south-southwest towards Six Mile Creek. However, localized groundwater flows radially from the site. Based on the hydraulic gradient between six monitoring well sets within the area of the groundwater contaminant plume, the average groundwater gradient was calculated at -0.009 ft/ft. This represents a relatively flat groundwater gradient and profile.

1.4 SITE MANAGEMENT OBJECTIVES

The SMP (EA 2014)[2] was prepared to manage remaining contamination at the site until the IC is extinguished in accordance with Environmental Conservation Law Article 71, Title 36. Environmental monitoring points at the Clinton West Plaza site have been maintained and sampled during the monitoring period in accordance with the SMP (EA 2014)[2]. This included collection of groundwater samples at various locations across the site, periodic inspection of the SSDS, indoor air monitoring, and decommissioning of site-related monitoring wells. Sampling locations, sampling methodology, list of analytes, analytical methods, inspection methodology, and site maintenance objectives are documented in the SMP (EA 2014)[2].

The objectives of the monitoring and maintenance program are:

- Collect representative groundwater samples and evaluate the data to confirm that the remedy continues to be effective in protecting public health and the environment.
- Collect indoor air and sub-slab soil vapor samples and evaluate the data to monitor the potential for VI at nearby residences and assess the effectiveness of the existing SSDS and determine necessity.
- Periodically inspect the site and provide routine maintenance, as necessary.
- Document and report this information to the NYSDEC.

1.5 PERIODIC REVIEW REPORT

The purpose of this Periodic Review Report is to summarize the results of the October 2016 through September 2017 annual groundwater monitoring and site inspection events, evaluate the effectiveness of the remedial actions implemented at the site, and to provide sufficient documentation that the remedy remains in place, is performing properly and effectively, and is protective of public health and the environment. Specifically, this report provides the following information:

- Results of groundwater monitoring
- Evaluation of the current groundwater quality conditions
- Results of site inspections
- Summary of the offsite SSDS installation
- Maintenance activities performed to date.

This report also documents any problems or changes necessary for the site to be in compliance with the SMP including removal of ICs/ECs that are no longer applicable; modifications in monitoring requirements, as applicable; or a Corrective Action Work Plan and schedule, as necessary.

2. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

2.1 SITE INSPECTION

The site was inspected during semi-annual groundwater monitoring and sampling events. During the Fall of 2013 (October/November), the tenant that occupied the laundry store front within the Clinton West Plaza building ceased operations and moved out of the space. The storefront windows and doors were boarded up from the outside at the space. At the time of the most recent site inspection during this Site Management Period, no new tenant had reoccupied the space.

2.1.1 Site Cover

The site cover system and surrounding areas were observed to be in good condition during the inspections. No ground intrusive work was noted at the site or within the immediate vicinity of the site during site inspections.

2.1.2 Sub-Slab Depressurization Systems

The onsite SSDS was not operational during the sampling event completed in December 2016. The space was vacant and boarded up by the property owner. Electrical service was suspended for the property. It is assumed that the system would be functional should the space be occupied by a new tenant. An inspection of the SSDS is scheduled for November/December 2017.

The offsite SSDS located at a private residence was operational.

2.2 SITE MONITORING PLAN COMPLIANCE REPORT

This Period Review Report (PRR) assesses whether the Clinton West Plaza site has been remediated and managed as set forth in the SMP (EA 2014)[2] and ROD (NYSDEC 2010)[1]. The SMP includes a description of the methods and rationale to be used for assessing the remedy effectiveness, including the following elements:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air).
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards.
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

2.3 CONFIRM COMPLIANCE WITH SITE MONITORING PLAN

The following table identifies the SMP requirements on an annual basis and demonstrates that compliance with the SMP has been or is scheduled to be achieved prior to the end of the 2017 calendar year.

Monitoring Program Activity	Required Frequency*		Compliance Dates
	Semi-Annually	Annually	
Groundwater Monitoring/Sampling		X	December 21-22 2016**
Indoor Air Monitoring (onsite and offsite)		X	December 21-22 2016***

*The frequency of events will be conducted as specified until otherwise directed by New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH).
** The current monitoring schedule as requested by the NYSDEC is annually.
** SMP notes that indoor air will be monitored as recommended by NYSDEC/NYSDOH, which is currently annually. The next scheduled monitoring event is to be completed in December 2017. No onsite monitoring is completed at this time as the building is vacant. The property owner is required to complete monitoring if the building is occupied.

2.4 GROUNDWATER MONITORING

2.4.1 Groundwater Monitoring and Sampling

Groundwater monitoring and sampling has been continuously performed at the site since completion of the groundwater remedial action (enhanced bioremediation) in 2011. During the reporting period (October 2016 through September 2017), one groundwater monitoring and sampling event was completed at this site. Prior to groundwater sampling activities, monitoring wells were gauged to measure groundwater depth, determine potentiometric surface elevations, and evaluate groundwater flow paths. The following table identifies the monitoring well network that is included in the SMP, a summary of dates that the monitoring wells were sampled during the reporting period, and the status of each monitoring well.

2.4.2 Monitoring Plan - Monitoring Wells

Well ID	Sampling Date	Well Status/Notes
	December 21-22, 2016	
MW-14	Sampled	Good condition.
MMW-01	Sampled	Good condition.
MMW-02	Sampled	Good condition.
MMW-03	Sampled	Good condition.
MMW-04	Sampled	Good condition.
TPMW-3	Sampled	Good condition.
TPMW-4	Sampled	Good condition.
TPMW-6	Sampled	Good condition.
TPM-01	Sampled	Good condition.
TPM-02	Sampled	Good condition.
TPM-03	Sampled	Good condition.

Local groundwater flow direction based on groundwater elevation data collected both historically and during the reporting period is generally in a south-southwest direction towards Six Mile Creek. Interpreted groundwater contour maps illustrating the direction of groundwater flow for the groundwater gauging event is shown in **Figure 3**. A summary of groundwater gauging data are provided in **Table 1**. Groundwater depth at the site is considered shallow and could potentially be influenced by temporal changes and seasonal precipitation events. Groundwater depths in December 2016 ranged from 3.05 ft below top of casing at MMW-01 west of the former source area to 6.82 ft below top of casing at TPM-02 which is located approximately 50 ft to the south. TPM-02 is a 1-inch piezometer installed to a depth greater than 20 ft bgs and is considered a temporary monitoring location. A copy of the daily field reports and photograph logs completed during monitoring and sampling activities are provided in **Appendix B**. Additionally, monitoring well gauging, purging, and sampling forms are provided in **Appendix C**.

2.4.3 Chlorinated Volatile Organic Compounds

During the reporting period, concentrations of CVOCs were consistently reported in monitoring well locations TPMW-3, TPMW-4, and MMW-01. As presented in **Figure 4**, primary CVOC concentrations are summarized at each monitoring location and include historical data from October 2011 prior to remedial activities. A summary of VOCs detected in groundwater samples collected from site monitoring wells is provided in **Table 2**. Data usability summary reports are provided in **Appendix D**.

During this monitoring period, PCE and TCE were not detected at concentrations greater than NYSDEC Ambient Water Quality Standards (AWQS). PCE was not detected at a concentration greater than the reporting limit (0.2 µg/L) and TCE was detected at low-level concentrations less than the NYSDEC AWQS (5 µg/L) at monitoring well locations TPMW-3 and TPMW-4. Daughter compounds, predominantly cis-1,2-DCE and VC, were detected at concentrations greater than NYSDEC AWQS at monitoring well locations TPMW-3 (430 µg/L and 360 µg/L, respectively), TPMW-4 (33.3 µg/L and 70.5 µg/L), and MMW-01 (1,600 µg/L and 3,600 µg/L).

Groundwater data generated during this reporting period remains consistent for PCE, TCE, *cis*-1,2-DCE and VC at these monitoring locations, with a decrease in concentrations at TPMW-3. Concentrations of PCE in groundwater have remained less than the NYSDEC AWQS (5 µg/L) since October 2012. Concentrations of TCE in groundwater have been less than 5 µg/L since June 2013 except for a detection at TPMW-3 in March 2015 (12.9 µg/L). Historically, performance monitoring data identified an overall decreasing trend for *cis*-1,2-DCE and VC through June 2013. However, beginning with the March 2015 sampling event, concentrations increased by an order of magnitude. This increase was also observed in December 2015. Concentrations at TPMW-3 and TPMW-4 decreased in December 2016, but concentrations of cis-1,2-DCE and VC remain greater than 1,000 µg/L at MMW-01 which is located on an adjacent residential property. These compounds contribute the greatest mass of the total CVOCs mass observed in the groundwater plume depictions (**Figure 5**).

The continued detections of these daughter compound concentrations at significant concentrations combined with low or no detections of PCE and TCE indicate that dechlorination processes are still actively occurring in site groundwater. However, the continued degradation of the contaminant mass to benign daughter compounds (e.g., ethene) appear to be stagnating or "stalling".

Progress to operational endpoints for daughter compounds is typically much slower than for the primary CVOCs. The time required to develop the appropriate subsurface conditions and for growth of microbial population capable of complete degradation may be on the order of several years at many sites. Therefore, the remedial technology may require prolonged process monitoring and system maintenance. Microbial populations capable of anaerobic dechlorination of the highly chlorinated compounds (e.g., PCE and TCE to cis-1,2-DCE) are thought to be fairly ubiquitous in many subsurface environments. However, the ability of these dechlorinators to compete with other native microbial populations or to complete the degradation of these compounds to innocuous end products sometimes becomes an issue at some sites.

2.4.4 Molar Concentration

In addition to evaluating groundwater concentration trends, molar concentrations were evaluated to determine *in-situ* changes in CVOC parent/dechlorination products. The molecular weights of primary CVOCs (PCE and TCE) and dechlorination products (*cis*-1,2-DCE, VC, and ethene) differ from each other, with dechlorination products having progressively lower molecular weights. Because of molecular weight variability, the reductive transformation of a mass of PCE, will not yield an identical mass of TCE (e.g., anaerobic dechlorination of 100 µg/L of PCE would produce 84 µg/L of TCE). Conversion of conventional groundwater concentrations (e.g., µg/L) to molar concentrations (micromoles per liter [µM/L]) enables assessment of the degree to which reductive transformation is occurring, because transformation of 1 mole of PCE yields 1 mole of TCE and so forth throughout the daughter compounds. The conversion is calculated by dividing the reported conventional groundwater concentration by the molecular weight of the compound. Decreases in the molar concentration of total chlorinated ethenes indicate that chlorinated ethene mass is being lost and that significant transformation of these compounds to non-toxic end products (ethene/ethane) is occurring.

Figure 6 presents a summary of the molar concentration of total chlorinated ethenes (PCE, TCE, *cis*-1,2-DCE, and VC) at monitoring points (TPMW-3, TPMW-4, and MMW-01) within the targeted treatment zone. Decreases in molar concentration had been observed at each monitoring point through July 2014, which indicated that contaminant mass had been converted to innocuous end products (e.g., ethene). During the 2015 monitoring period it was observed that total molar concentrations (predominantly cis-1,2-DCE and VC) increased at TPMW-03 and MMW-01. This trend continued in 2016, although molar concentrations decreased at TPMW-03 compared to 2015, but remains greater than the high from 2011 through 2014.

2.4.5 Monitored Natural Attenuation Parameters

The December 2016 groundwater sampling event also included the collection and analysis of groundwater samples for Nitrate, Sulfate, Metabolic acids, TOC and methane/ethane/ethene to further assess natural attenuation conditions. A summary of monitored natural attenuation parameters detected in groundwater samples collected from site monitoring wells is provided in **Table 3**.

For monitoring the enhanced anaerobic bioremediation remedy performance, TOC concentrations greater than 20 micrograms per liter (mg/L) are considered favorable for sustaining dechlorination of CVOCs. TOC concentrations less than 20 mg/L are considered low, between 20 mg/L and 200 mg/L moderate, and greater than 200 mg/L high. Concentrations for TOC in TPMW-3 (11.5 mg/L), TPMW-4 (15 mg/L), and MMW-01 (13.8 mg/L) were less than 20 mg/L, which is considered unfavorable for sustaining dechlorination of CVOCs. TOC concentrations have been declining within the aquifer since peak concentrations were observed in the November/December 2011 timeframe immediately after the substrate injection.

Observed nitrate was detected or concentrations were less than 1 mg/L, which is favorable for reductive dechlorination. December 2016 sampling event, sulfate was detected at a concentration greater than 20 mg/L at TPMW-4 (61 mg/L) and at MW-14 (40.6 mg/L). While sulfate concentrations have continued to approach and/or exceed baseline conditions over the course of the post monitoring period (2012 – 2016), sulfate concentrations have remained less than 20 mg/L (**Table 3**). In some instances, as sulfate concentrations increase they may cause competitive exclusion for dechlorination.

A positive indicator for continued dechlorination was observed during the December 2016 groundwater event based on concentrations of methane/ethane/ethene within the aquifer. Continued production of ethane/ethene indicates that CVOCs are still being degraded to innocuous end products. Concentrations observed were within the same order of magnitude as those observed in 2012 within the targeted treatment zones.

Water quality readings were generated during active groundwater sampling. In general, if dissolved oxygen (DO) concentrations are < 1 milligrams per liter and oxidation/reduction potential (ORP) reading are negative (-100 millivolts) then it can be inferred that anaerobic conditions exist at a site. The DO and ORP readings recorded during the groundwater sampling events are provided on the purging forms in **Appendix C**. In general, conditions within the former source area still appeared to be favorably anaerobic, although not as sustaining as previous monitoring events.

2.5 INDOOR AIR MONITORING

Indoor air and outdoor air samples were collected from one residential home (Structure 01) located on Titus Avenue south southwest of the Site (**Figure 2**). Sub-slab vapor samples were not needed during this sampling event due to the existing SSDS in Structure 01. The SSDS system was not operating at the former dry cleaners (Structure 02) and there were no occupants.

Indoor air samples were collected to monitor the potential for VI at nearby residences and to assess the effectiveness of the existing SSDS at the site. Air quality monitoring was completed during the heating season and samples were collected from 21-22 December 2016. The property owner was contacted in advance to schedule appointments for sampling activities.

2.5.1 Analytical Results

Air canisters were shipped to Eurofins Air Toxics located in Folsom, California. Eurofins is an approved Environmental Laboratory Analytical Program certified laboratory for analysis of VOCs to be analyzed via TO-15SIM. Samples were placed in appropriate shipping containers, sealed, and submitted to the laboratory for analysis. The samples were labeled, handled, and packaged following the procedures described in the Generic Quality Assurance Project Plan (EA 2011)[12]. Quality assurance/quality control samples were collected at the frequency detailed in the Generic Quality Assurance Project Plan (EA 2011)[11]. A duplicate sample was collected from the indoor air location at Structure 01.

Indoor air and outdoor air samples were collected from Structure 01. PCE was detected in IA-01 (0.33 micrograms per cubic meter (µg/m^3)) and in OA-01 (0.20 µg/m^3) at levels below the NYSDOH guidance value of 100 µg/m3. 1,2,4-Trimethylbenzene and 4-Ethyltoluene were detected in OA-01 at trace concentrations. 4-Methyl-2-pentanone was detected at concentrations below 1.0 µg/m^3 in IA-01. in 2-propanol, Benzene, carbon disulfide, ethylbenzene, Freon 11, Freon 12 n-Heptane, Hexane, toluene, o-Xylene and m,p-Xylene were detected at concentrations less than 10.0 µg/m3 in IA-01 and OA-01. Analytical results are presented in **Table 4**. Data usability summary reports are provided in **Appendix D**.

Currently, offsite indoor air and outdoor air monitoring is planned to occur during the upcoming (November/December 2017) heating season. Results of the indoor air sampling will be issued to NYSDEC and NYSDOH upon completion of data validation.

2.6 CONFIRM THAT THE PERFORMANCE STANDARDS ARE BEING MET

Table 2 provides a summary of groundwater results for the reporting period. Overall, site groundwater concentrations of primary CVOCs (PCE/TCE) have remained less than SCGs. Daughter compounds (cis-1,2-DCE/VC) remained at concentrations that exceed their respective SCGs and have increased since 2013. Additionally, a similar increase in cis-1,2-DCE/VC was observed at MMW-01, TPM-03 and TPM-04 in December 2016. Total CVOC mass continues to remain less than baseline conditions in the former source area.

2.7 SITE MAINTENANCE

No ongoing site maintenance activities were required at the site during the reporting period.

[12] EA. 2011. Generic Quality Assurance Project Plan. NYSDEC Standby Contract D007624. April.

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3. INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION PLAN REPORT

As previously noted, the SMP is included under **Appendix A** of this PRR and includes the Institutional and Engineering Controls Plan. The SMP was revised in June 2014 to include the SSDS Operation Management Plan as Appendix E within the document. IC and ECs at the Clinton West Plaza site currently include the following:

- EC – Cover system that includes the existing overburden soil, asphalt pavement areas, concrete sidewalks, and concrete building slabs/foundations that prevent incidental contact or ingestion of subsurface soil at the majority of the site. An Excavation Work Plan included as an appendix to the SMP identifies the procedures and protocols required to be implemented should the cover system be breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed.

- EC – O&M of the SSDS at the laundry facility space of the site building

- EC – O&M of the SSDS at the offsite private residence

- EC – Criteria for completion of remediation/termination of remedial systems

- IC – Compliance with the Environmental Easement and SMP.

3.1 INSTITUTIONAL CONTROL/ENGINEERING CONTROL REQUIREMENTS AND COMPLIANCE

Determination of compliance with the IC/ECs at the Clinton West Plaza site is made on the following criteria:

- The IC/EC applied at the site are in place and unchanged since completion of the remedial activities and issuance of the SMP

- No changes or occurrences of activity have impaired or impacted the ability of such controls to protect human health and the environment, or constitute a violation or failure to comply with any element of the SMP for such controls

- Access to the Clinton West Plaza site will continue to be provided to the NYSDEC evaluation of the remedy, including access to the site monitoring network and other controls (e.g., SSDS) for continued monitoring and/or maintenance.

3.2 INSTITUIONAL CONTROL/ENGINEERING CONTROL CERTIFICATION FORM

The IC/EC certification form has been included as **Appendix E** of this PRR.

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4. COST EVALUATION

4.1 SUMMARY OF COSTS

Total costs for site management services, including groundwater monitoring and sampling, and site inspection is $34,379 for this reporting period. A breakdown of major costs for October 2016 through September 2017 is provided in this table.

Site Management Activity	Cost Incurred for the period of October 2016 – September 2017
Monitoring, sampling, inspection, oversight, supplies/equipment, travel, and reporting (EA)	$29,135
Analytical Laboratory (Chemtech Consulting Group and Eurofins Air Toxics, Inc.)	$5,244

The monitoring, sampling, inspection, oversight and reporting costs, which are billed by EA, include costs associated with project management, quality assurance, and periodic reporting throughout the reporting period. These monitoring and reporting costs are based on fiscal data generated and tracked by an EA internal financial management system and includes travel expenses, equipment/supply costs, sample shipping, and other direct charges.

The analytical costs, billed by Chemtech Consulting Group of Mountainside, New Jersey and Eurofins Air Toxics covered annual groundwater analyses and annual indoor air analyses. Data generated during this reporting period was validated by Environmental Data Services, Inc. of Williamsburg, Virginia.

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5. RECOMMENDATIONS

5.1 GROUNDWATER MONITORING

Groundwater results generated during this reporting period have generally shown a continued decreasing trend for the primary CVOCs. PCE/TCE were not detected greater than site SCGs in December 2016. Concentrations of daughter compounds at MMW-01 were observed to be at a similar concentration in December 2016 as they were in December 2015; which are an order of magnitude greater than those observed in March 2015. Additionally, cis,1-2-DCE/VC were detected at similar concentrations in TPM-4. Concentrations of cis,1-2-DCE/VC were an order of magnitude lower during the December 2016 sampling event, but still exceeded SCGs. Thus, indicating that elevated concentrations of daughter products are not restricted to the primary source area.

While groundwater quality indicates that conditions are still favorable for anaerobic natural attenuation processes to further degrade residual chlorinated compounds within the groundwater system, concentrations of daughter products are present in elevated concentrations indicating a slowdown or stall in complete degradation to innocuous breakdown products (ethane/ethene). Total organic carbon in groundwater, which represents the availability of electron donors, is a limiting factor in continued reductive dechlorination, has decreased from a high of 110 to 340 mg/L following the November 2011 injection to less than 20 mg/L. This combined with elevated levels of CVOCs indicate additional substrate is required to sustain the anaerobic treatment zones. Based on these data, a complete removal of remaining CVOC mass from the groundwater system through natural attenuation processes will likely require additional enhancements.

5.2 INDOOR AIR MONITORING

Offsite indoor air monitoring was completed in December 2016 during this reporting period. Trace concentrations of PCE were detected in the indoor air and outdoor air samples.

Offsite indoor air monitoring is currently scheduled for the upcoming heating season (November/December 2017). Indoor air monitoring results will be provided to NYSDEC and NYSDOH upon completion of data validation.

5.3 SITE INSPECTION AND MAINTENANCE

5.3.1 Site Cover

The site cover system and surrounding areas were observed to be in good condition with no ground intrusive work being noted during the inspections.

5.3.2 Sub-Slab Depressurization Systems

The most recent onsite SSDS inspection was completed in December 2016. The system was not operational as the building was vacant and electrical service was suspended. The SSDS provides

mitigation from VI and ensures protectiveness for human health and the environment. The offsite SSDS was installed in June 2015 and was inspected during the 2016–2017 heating season sampling event. The system was observed to be operating normally and within limits.

5.4 SUMMARY

The following actions are recommended for future site management activities at the Clinton West Plaza site:

- Site management tasks should continue. This includes annual site inspections and groundwater monitoring and sampling. The next inspection and groundwater sampling events are currently scheduled for November/December 2017.

- To better understand the current development and status of the microbiological community structure, biotrap samplers should be deployed and analysis conducted. Optional analyses used to evaluate microbial activity and the potential for anaerobic dechlorination of CVOCs include molecular analysis for specific microbial species. Anaerobic reductive dechlorination is limited to few metabolic classifications of bacteria. These groups include methanogens, sulfate-reducing bacteria, and dechlorinating bacteria. Generation of this data will allow for an assessment of the potential for "DCE stall" and will aid in the determination or need for further substrate injections and/or bioaugmentation to fully remediate site groundwater to applicable SCGs.

- Provide a comprehensive evaluation of the potential for natural attenuation to further degrade chlorinated contaminant mass. Additional groundwater data should be generated during the next reporting period including groundwater analysis for ethane/ethane/ethene, nitrate, sulfate, metabolic acids, and total organic carbon.

- The onsite SSDS will be inspected and tested for operational functionality within the next reporting period or at minimum prior to re-occupancy of the space. An inspection is currently scheduled for November/December 2017.

If sustained groundwater concentrations of chlorinated compounds (specifically dichloroethenes and VC) persist over the next monitoring event (November/December 2017), an evaluation of the microbial community should be completed and a second substrate injection event is recommended to enhance bioremediation processes.

Figures

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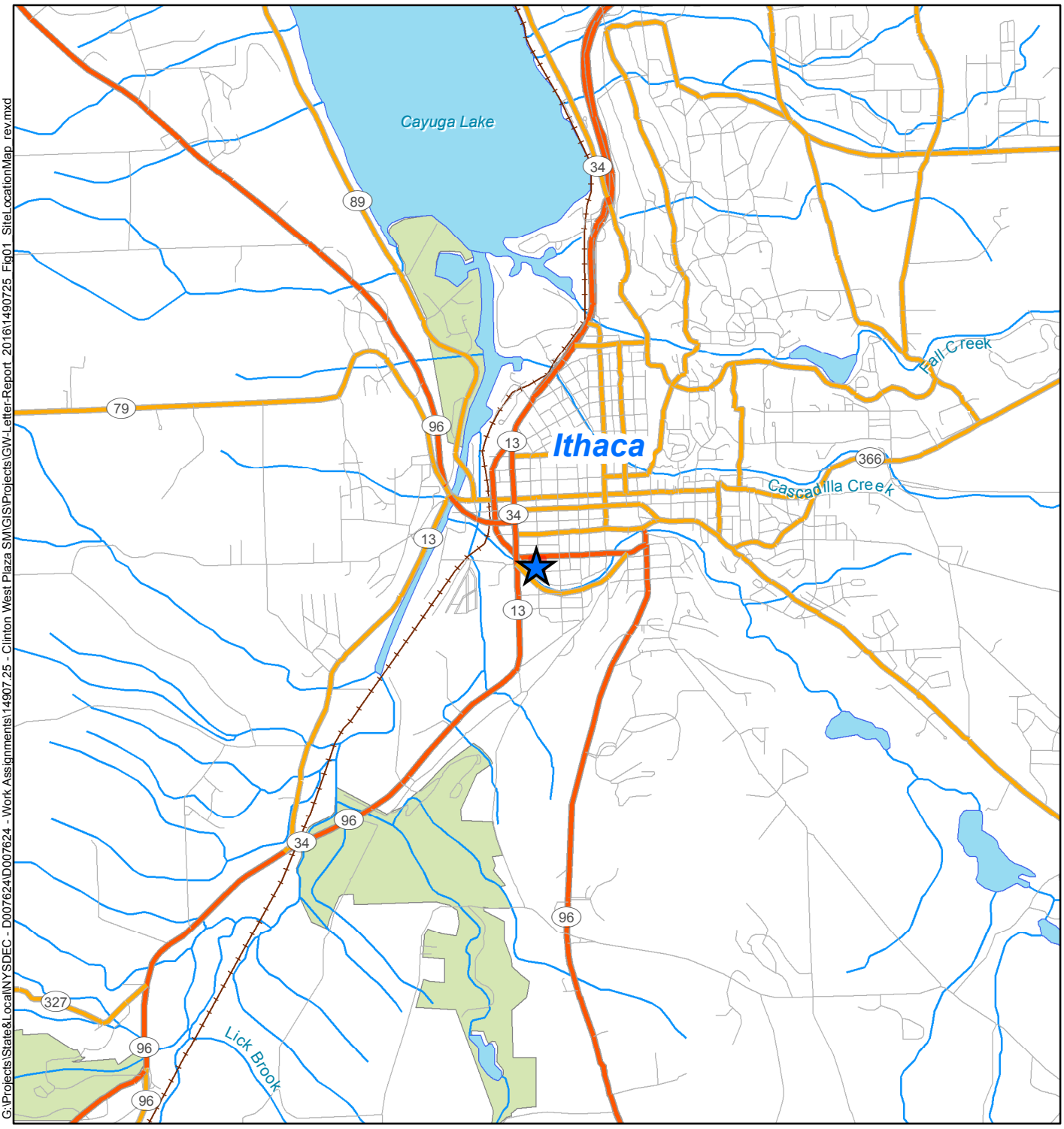

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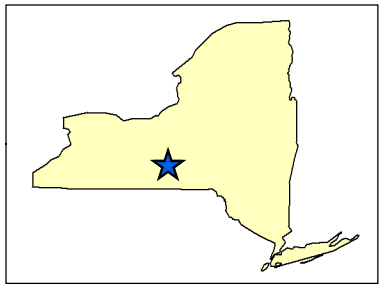

0 0.25 0.5 1
Miles

N

Legend

- Highway
- Major Road
- Local Road
- Park
- Rivers & Streams
- Surface Water Body

Figure 1
Site Location Map
Clinton West Plaza (755015)
Ithaca, New York

Map Date: 10/6/2017

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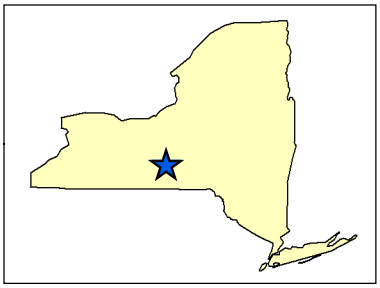

0 25 50 100
Feet

N

Legend

- Property Boundary
- Monitoring Well
- Temporary Monitoring Point
- Decommissioned Well

Figure 2
Groundwater Monitoring Wells
Clinton West Plaza (755015)
Ithaca, New York

Map Date: 10/1/2017

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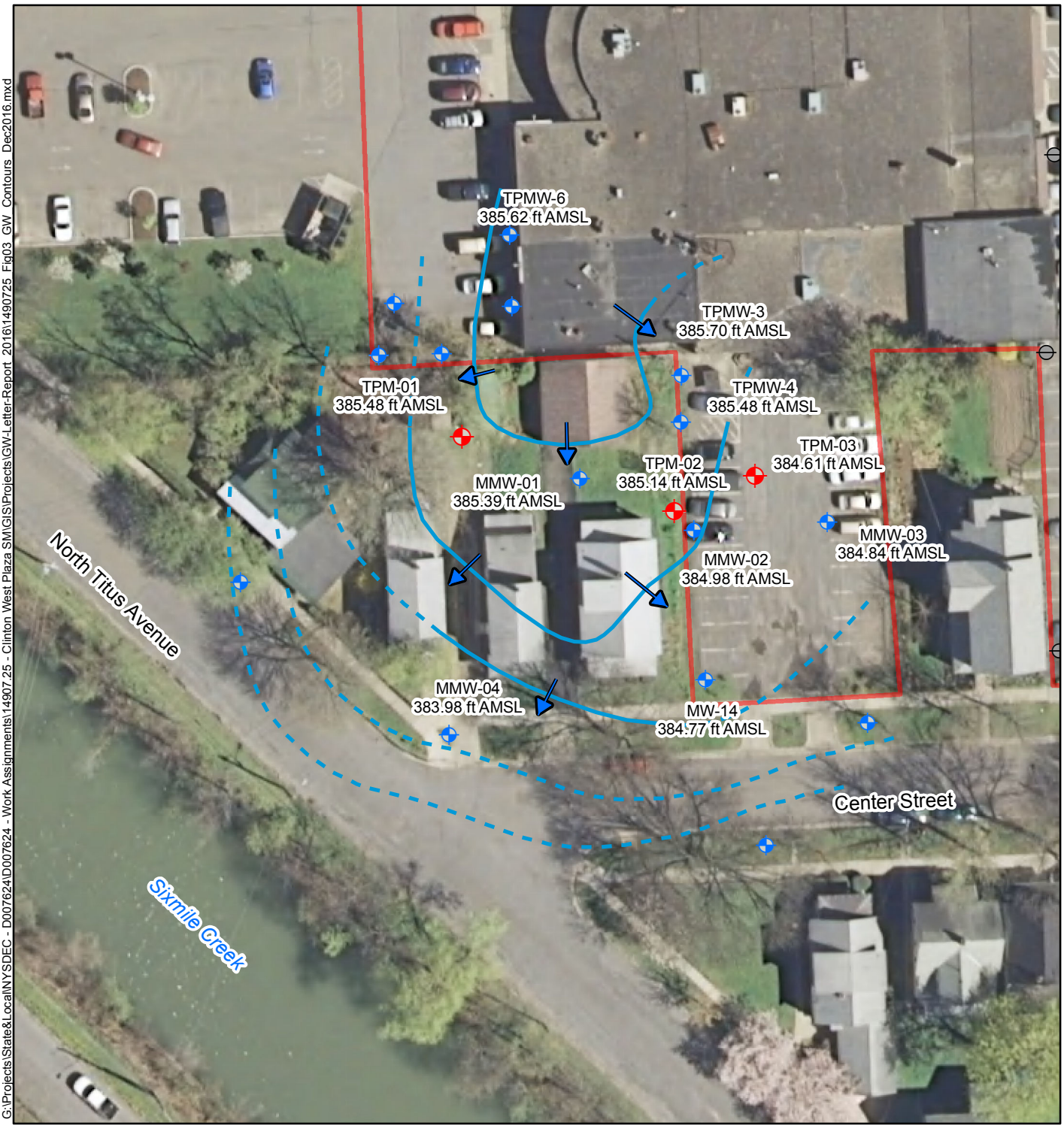

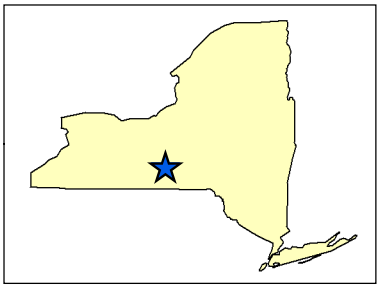

Legend

- Site Property Boundary
- Interpolated Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Monitoring Well
- Temporary Monitoring Point
- Decommissioned Well

0 25 50 100
Feet
N

Figure 3
Groundwater Elevations and Potentiometric Surface
December 2016
Clinton West Plaza (755015)
Ithaca, New York

Map Date: 10/1/2017

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

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VOCs (µg/L)	Groundwater Standard (µg/L)
Tetrachloroethene	5
Tricholorethene	5
cis-1,2-dichloroethene	5
Vinyl chloride	2

TPMW-6

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	0.95 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TPMW-1

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS
Tricholorethene	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-dichloroethene	NS	NS	NS	NS	0.65 J	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride	NS	NS	NS	NS	0.64 J	NS	NS	NS	NS	NS	NS	NS	NS

MW-16

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	NS	NS	NS	NS	11	NS	NS	NS	NS	NS	NS	NS	NS
Tricholorethene	NS	NS	NS	NS	1.5	NS	NS	NS	NS	NS	NS	NS	NS
cis-1,2-dichloroethene	NS	NS	NS	NS	1.6	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride	NS	NS	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS

TPM-01

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.53 J	ND	ND	ND	0.51 J	ND	ND	ND	ND	ND	0.34 J	0.34 J	ND

MMW-01

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	(<0.2)
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	(<0.2)
cis-1,2-dichloroethene	370 D	220 D	370 D	1,100 D	250 D	230	51	31	130	10.7	130 D	1400	1600
Vinyl chloride	200 D	260 D	220 D	450 D	250 D	480	190	76	820	59.1	340 D	3000	3600

MMW-04

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.49	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	0.81 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.65
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.88

TPMW-3

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	690 D	16	5.2	9.4	2.6	20	12 D	3	ND	0.83 J	2.3 D	0.84	ND
Tricholorethene	410 D	170	19	17	5.7	34	31 D	9.2	ND	ND	12.9	2.2	0.29
cis-1,2-dichloroethene	990 D	4,000 D	3,400 D	2,000 D	180	410	370 J	180	270	140	2,000 D	2,000	430
Vinyl chloride	92	140	240 D	690 D	320 D	300J	190 J	79	280	83.7	1,300 J	1700	360

TPMW-4

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	26	ND	1.7	0.96 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	51	5.3	4	1.8	0.66 J	ND	0.66 J	ND	ND	ND	0.35 J	ND	0.38
cis-1,2-dichloroethene	430 D	790	650 D	250 D	21	13	3.1	4.8	10	33.2	130 D	25.6	33.3
Vinyl chloride	130	150	230 D	200 D	18	16	2.4	4	44	100	300 D	150	70.5

MMW-02

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TPM-03

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	ND	0.95 J	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MMW-03

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	0.76 J	ND	ND	ND	ND	ND	ND	ND	ND

MMW-02

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tricholorethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-dichloroethene	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

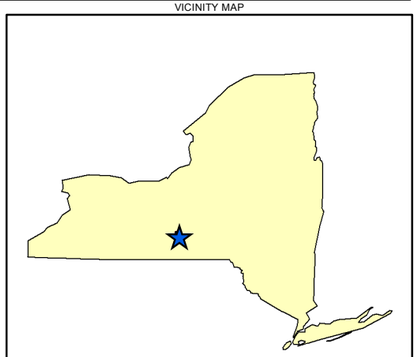
MW-14

VOCs (µg/L)	Oct-11	Nov-11	Dec-11	Jan-12	Apr-12	Jul-12	Oct-12	Jun-13	Jan-14	Jul-14	Mar-15	Dec-15	Dec-16
Tetrachloroethene	4.3	2.3	1.6	1.7	1.8	ND	ND	0.75 J	ND	0.95 J	ND	0.96	0.57
Tricholorethene	2.7	1.4	1.2	0.9	1.2	ND	ND	0.77 J	ND	0.61 J	ND	ND	ND
cis-1,2-dichloroethene	4.2	1.4	1.9	1.3	1.2	0.65	ND	0.7 J	ND	ND	0.38	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND	ND

Center Street

North Titus Avenue

VICINITY MAP



Legend

- Site Property Boundary
- Monitoring Well
- Temporary Monitoring Point
- Decommissioned Well

Aerial: ESRI, 2011

Map Date:

10/1/2017

N

0 50 100

Feet

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Figure 4
Groundwater Analytical Results
December 2016
Clinton West Plaza (755015)
Ithaca, New York

G:\Projects\State&Local\NYSDEC - D007624\D007624 - Work Assignments\14907.25 - Clinton West Plaza SM\GIS\Projects\GW-Letter-Report_2016\1490725_Fig04_GroundwaterResults_2016.mxd

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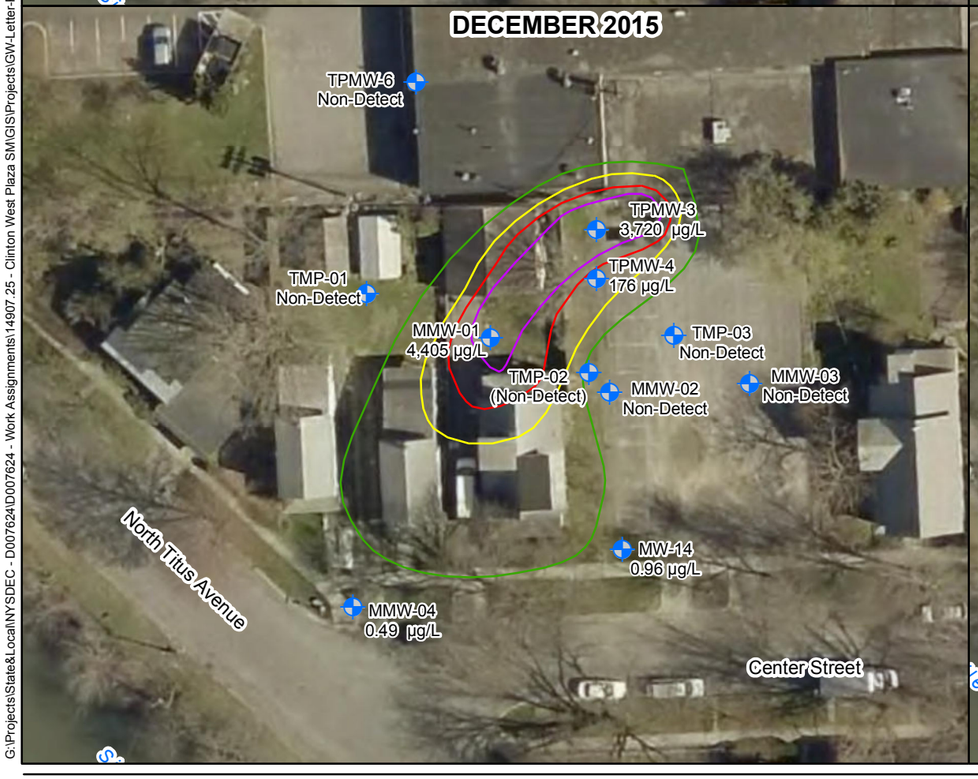
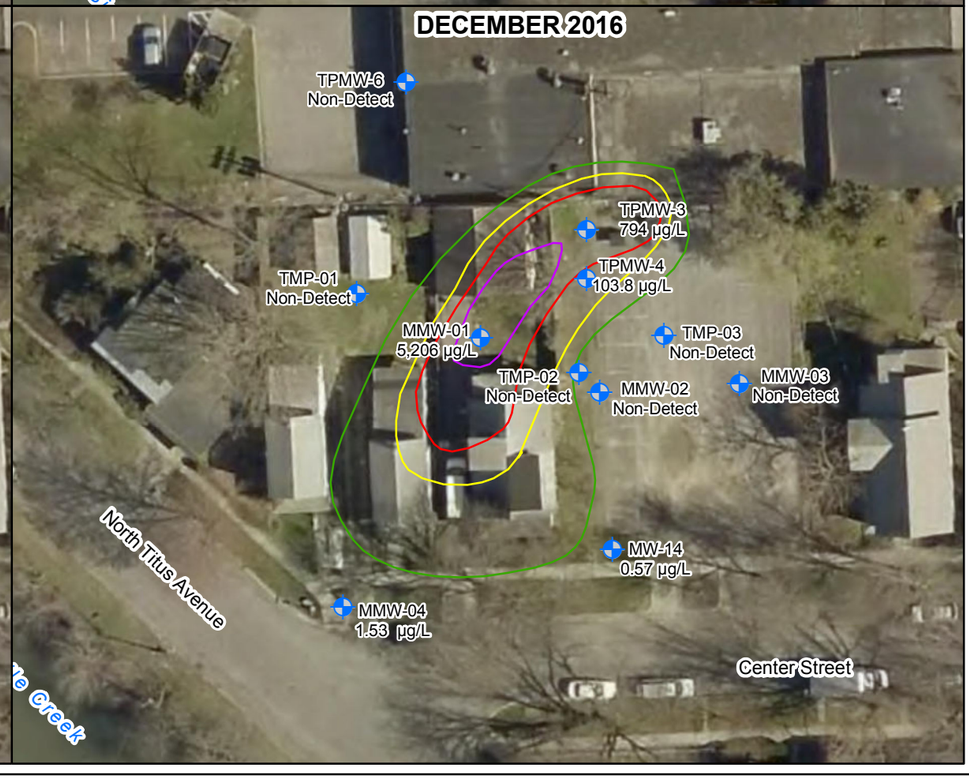
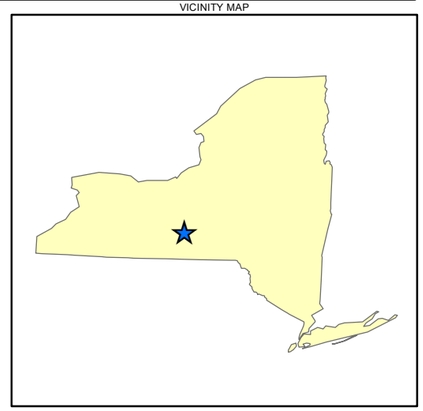




VICINITY MAP



Legend

Groundwater Monitoring Well

Total VOC Concentration (µg/L)

- >1,000
- 500 µg/L
- 50 µg/L
- 5 µg/L

Aerial: ESRI, 2011

Map Date: 2/2/2017

N

0 25 50 Feet

NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation

Figure 5
INTERPRETED TOTAL CHLORINATED VOLATILE ORGANIC COMPOUND GROUNDWATER PLUMES
Clinton West Plaza (755015)
Ithaca, New York

G:\Projects\State&Local\NYSDEC - D007624\D007624 - Work Assignments\14907.25 - Clinton West Plaza SMGIS\Projects\GW-Letter-Report_2016\1490725_Fig05_CVOC_Contours.mxd

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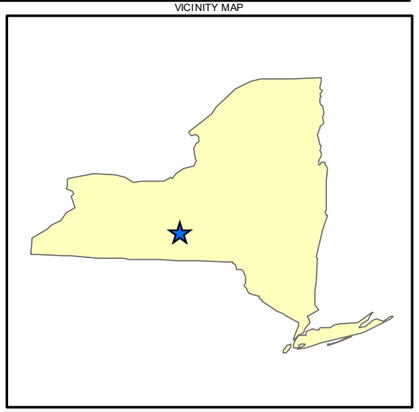
VICINITY MAP



Legend

Pilot Study Treatment Area

Groundwater Monitoring Well

Aerial: ESRI, 2011

Map Date: 10/23/2017

0 12.5 25 50 Feet

1 inch = 50 feet

NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation

Figure 6
CVOC MOLAR CONCENTRATIONS IN GROUNDWATER: OCTOBER 2011 - DECEMBER 2015
Clinton West Plaza
Ithaca, New York

G:\Projects\State&Local\NYSDEC - D007624\D007624 - Work Assignments\14907.25 - Clinton West Plaza SMI\GIS\Projects\PRR_20171490725_Fig6_Molar_Concentrations.mxd

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Tables

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Table 1 Groundwater Elevation Data

Monitoring Well Identification	Top of PVC Riser Elevation (ft AMSL)	Depth to Groundwater (ft btoc)	Depth to Well Bottom (ft btoc)	Groundwater Table Elevation (ft AMSL)
December 2016				
MW-14	389.02	4.25	14.49	384.77
MMW-01	388.44	3.05	19.12	385.39
MMW-02	388.62	3.64	19.16	384.98
MMW-03	388.49	3.65	19.15	384.84
MMW-04	388.48	4.55	29.12	383.93
TPMW-3	389.25	3.55	10.82	385.70
TPMW-4	389.10	3.62	15.48	385.48
TPMW-6	389.42	3.80	15.52	385.62
TPM-01	388.75	3.27	24.51	385.48
TPM-02	391.96	6.82	28.18	385.14
TPM-03	389.11	4.50	21.31	384.61

NOTE:

AMSL =Above mean sea level
ft =feet
btoc =Below top of casing
Horizontal Datum NAD 83(1996) - New York State Plane Coordinate System, Central Zone, U.S. foot
Vertical Datum NAVD 1988, U.S. foot

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Table 2 Summary of Detected Volatile Organic Compounds in Groundwater Samples December 2016

Parameters List USEPA Method 8260B	MW ID	TPMW-3		TPMW-4		TPMW-6		TPM-01		TPM-02		TPM-03		MMW-01		NYSDEC AWQS (µg/L)
	Lab ID	H6277-08		H6277-09		H6277-05		H6277-03		H6277-06		H6277-07		H6277-02		
	Screened Interval	6 - 16 ft bgs		6 - 16 ft bgs		6 - 16 ft bgs		18 - 28 ft bgs		18.22 - 28.22 ft bgs		14.54 - 24.54 ft bgs		10 - 20 ft bgs		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	12/22/2016		12/22/2016		12/22/2016		12/22/2016		12/22/2016		12/22/2016		12/22/2016		
Acetone	(µg/L)	(<0.5)	U	(<0.5)	U	3.2		32.2		45.5		27.1		2.4	J	*50 (g)*
Carbon Disulfide	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	0.51	J	(<0.2)	U	(<0.2)	U	(<0.2)	U	---
1,1- Dichloroethene	(µg/L)	2.2		(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	2.5		*5 (s)*
cis-1,2- Dichloroethene	(µg/L)	**430**		**33.3**		(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	**1,600**		*5 (s)*
trans-1,2- Dichloroethene	(µg/L)	1.7		(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	**5.9**		*5 (s)*
Tetrachloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	*5 (s)*
Trichloroethene	(µg/L)	0.29	J	0.38	J	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	*5 (s)*
Vinyl chloride	(µg/L)	**360**		**70.5**		(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	**3,600**		*2 (s)*
Parameters List USEPA Method 8260B	MW ID	MMW-02		MMW-03		MMW-04		MW-14		DUPLICATE		TRIP BLANK		TRIP BLANK		NYSDEC AWQS (µg/L)
	Lab ID	H6249-02		H6249-01		H6277-04		H6277-01		H6277-11		H6249-05		H6277-10		
	Screened Interval	10 - 20 ft bgs		10 - 20 ft bgs		10 - 20 ft bgs		20 - 30 ft bgs		6 - 16 ft bgs		NA		NA		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		QA/QC - Duplicate		QA/QC - Trip Blank		QA/QC - Trip Blank		
	Sample Date	12/21/2016		12/21/2016		12/22/2016		12/22/2016		12/22/2016		12/21/2016		12/22/2016		
Acetone	(µg/L)	(<0.5)	UJ	4.8	J	9.9		(<0.5)	U	(<0.5)	U	(<0.5)	UJ	(<0.5)	U	*50 (g)*
Carbon Disulfide	(µg/L)	(<0.2)	U	(<0.2)	U	1.0		(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	---
1,1- Dichloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	2.2		(<0.2)	U	(<0.2)	U	*5 (s)*
cis-1,2- Dichloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	0.65	J	(<0.2)	U	**430**		(<0.2)	U	(<0.2)	U	*5 (s)*
trans-1,2- Dichloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	1.7		(<0.2)	U	(<0.2)	U	*5 (s)*
Tetrachloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	0.57	J	(<0.2)	U	(<0.2)	U	(<0.2)	U	*5 (s)*
Trichloroethene	(µg/L)	(<0.2)	U	(<0.2)	U	(<0.2)	U	(<0.2)	U	0.29	J	(<0.2)	U	(<0.2)	U	*5 (s)*
Vinyl chloride	(µg/L)	(<0.2)	U	(<0.2)	U	0.88	J	(<0.2)	U	**370**		(<0.2)	U	(<0.2)	U	*2 (s)*

NOTE:

NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
USEPA = United States Enviornmental Protection Agency
ID = Identification
µg/L = Micrograms per liter
J = Analyte detected below the practical quantification limit (PQL)
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
U = Analyte was analyzed for, but not detected below the laboratory reporting limit
(g) = NYSDEC Ambient Water Quality Standards guidance value
(s) = NYSDEC Ambient Water Quality Standards standard value

Analytical data results provided by Chemtech. Analytical data was validated by Environmental Data Services.
Bold values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.
DUPLICATE sample was collected at TPMW-3.

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Table 3 Summary of Reductive Dechlorinization Assessment Parameters in Groundwater Samples December 2016

	MW ID	TPMW-3		TPMW-4		TPMW-6		TPM-01		TPM-02		TPM-03	
	Lab ID	H6277-08		H6277-09		H6277-05		H6277-03		H6277-06		H6277-07	
	Screened Interval	6 - 16 ft bgs		6 - 16 ft bgs		6 - 16 ft bgs		18 - 28 ft bgs		18.22 - 28.22 ft bgs		14.54 - 24.54 ft bgs	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Parameters List	Sample Date	12/22/2016		12/22/2016		12/22/2016		12/22/2016		12/22/2016		12/22/2016	
Ethane, Ethene, and Methane by USEPA Method RSK175													
Ethane	(µg/L)	640	D	220	D	88.5		11.1		(<1.0)	U	6.2	
Ethene	(µg/L)	1,200	D	190	D	(<1.0)	U	(<1.0)	U	(<1.0)	U	(<1.0)	U
Methane	(µg/L)	13,000	D	9,300	D	14,000	D	14,000	D	6,900	D	12,000	D
Nitrate, Sulfate, and Metabolic Acids by USEPA Method E300.0													
Nitrate	(mg/L)	(<0.027)	U	(<0.027)	U	(<0.027)	U	(<0.027)	U	(<0.027)	U	(<0.027)	U
Sulfate	(mg/L)	5.88		61		2.1		2.1		2.39		2.32	
Total Organic Carbon by USEPA Method SW9060													
Total Organic Carbon	(mg/L)	11.5		15		9.8		34.7		25.4		23	

	MW ID	MMW-01		MMW-02		MMW-03		MMW-04		MW-14		DUPLICATE	
	Lab ID	H6277-02		H6249-02		H6249-01		H6277-04		H6277-01		H6277-11	
	Screened Interval	10 - 20 ft bgs		10 - 20 ft bgs		10 - 20 ft bgs		10 - 20 ft bgs		20 - 30 ft bgs		6 - 16 ft bgs	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		QA/QC - Duplicate	
Parameters List	Sample Date	12/22/2016		12/21/2016		12/21/2016		12/22/2016		12/22/2016		12/22/2016	
Ethane, Ethene, and Methane by USEPA Method RSK175													
Ethane	(µg/L)	1,500	D	32.3		15.9		(<1.0)	U	(<1.0)	U	670	D
Ethene	(µg/L)	7,900	D	(<1.0)	U	(<1.0)	U	(<1.0)	U	(<1.0)	U	1,300	D
Methane	(µg/L)	18,000	D	11,000	D	8,000	D	16,000	E	26.7		12,000	D
Nitrate, Sulfate, and Metabolic Acids by USEPA Method E300.0													
Nitrate	(mg/L)	(<0.027)	U	(<0.027)	U	(<0.027)	U	0.302		0.319		(<0.027)	U
Sulfate	(mg/L)	2.1		2.11		2.14		2..4		40.6		5.77	
Total Organic Carbon by USEPA Method SW9060													
Total Organic Carbon	(mg/L)	13.8		17.2		18.5		30.1		4.34		14.8	

NOTE:

NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standard
ID = Identification
µg/L = Micrograms per liter
mg/L = milligrams per liter
J = Analyte detected below the practical quantification limit (PQL)
U = Analyte was analyzed for, but not detected below the laboratory reporting limit
D = Indicates the compound concentration is the result of a dilution.
(g) = NYSDEC Ambient Water Quality Standards guidance value
(s) = NYSDEC Ambient Water Quality Standards standard value

Analytical data results provided by Chemtech. Analytical data was validated by Environmental Data Services.
DUPLICATE sample was collected at TPMW-3.

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Appendix A

Site Management Plan

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Appendix B

Daily Field Reports with Photograph Log

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DAILY OBSERVATION REPORT **Day: Thursday Date: 12/22/16**

NYSDEC

Temperature: (F) 30 (am) 35 (pm)

Wind Direction: SW (am) WNW (pm)

Project Name: Clinton West Plaza

Weather: (am) overcast, light wind
(pm) light snow, light wind

NYSDEC Site # 755015

Contract # Arrive at site 0800 (pm)

Ithaca, New York Leave site: 1700 (pm)

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No (x)
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?

Soil	Yes ( )	n/a (x)	* No ( )
Waters	Yes ( )	n/a (x)	* No ( )
Air	Yes ( )	n/a (x)	* No ( )

OTHER ITEMS:

- *If No, provide comments*

Site Sketch Attached: Yes ( ) No (x)
Photos Taken: Yes (x) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

Onsite to continue to groundwater sample. Collect suma canisters. Ship samples out via Fed Ex.

SAMPLING (Soil/Water/Air)

Sample ID:	Date / Time:	Description:
755015-OA-01	12.22.16 / 1000	TO-15 SIM
755015-DUP-01	12.22.16 / 1008	TO-15 SIM
755015-IA-01	12.22.16 / 1008	TO-15 SIM
MW-14	12.22.16 / 1354	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
MMW-01	12.22.16 / 1318	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
TMP-01	12.22.16 / 1056	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
MMW-04	12.22.16 / 1215	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
TPMW-06	12.22.16 / 0940	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
TPM-02	12.22.16 / 1000	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
TPM-03	12.22.16 / 1025	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
TPMW-3	12.22.16 / 1450	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate

TPMW-4	12.22.16 / 1548	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
Duplicate (tpmw-3)	12.22.16 / 1450	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

(Name of contractor) personnel: Sarah Nelson, Justin Marra

(Name of Subcontractor) personnel: none

(Name of contractor) equipment: SUMA canisters, water level indicator, bailers, horiba, peristaltic pump

(*Indicates active equipment)

Other Subcontractors:

VISITORS TO SITE:

none

PROJECT SCHEDULE ISSUES:

none

PROJECT BUDGET ISSUES:

none

ITEMS OF CONCERN:

COMMENTS:

ATTACHMENT(S) TO THIS REPORT:

SITE REPRESENTATIVE:

Name: Sarah Nelson
cc:

DAILY OBSERVATION REPORT **Day: Wednesday Date: 12/21/16**

NYSDEC

Temperature: (F) 30 (am) 35 (pm)

Wind Direction: S (am) S (pm)

Weather: (am) overcast, light wind
(pm) some clouds, light wind

Project Name: Clinton West Plaza

NYSDEC Site # 755015

Contract #

Ithaca, New York

Arrive at site 830 (pm)

Leave site: 1700 (pm)

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No (x)
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?

Soil	Yes ( )	n/a (x)	* No ( )
Waters	Yes ( )	n/a (x)	* No ( )
Air	Yes ( )	n/a (x)	* No ( )

- *If No, provide comments*

OTHER ITEMS:

Site Sketch Attached: Yes ( ) No (x)
Photos Taken: Yes (x) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

Onsite for groundwater sampling. Set up air canisters inside the basement and outside of structure 1. Monitoring well TPMW-6, TPM-03, TPM-02 and TPM-01 were purged dry. Two monitoring wells were sampled. Shipped samples via Fed Ex.

SAMPLING (Soil/Water/Air)

Sample ID:	Date / Time:	Description:
MMW-02	12.21.16 / 1602	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate
MMW-03 (ms/msd)	12.21.16 / 1506	VOCs, TOCs, methane, ethane, ethane, nitrate, nitrite, sulfate

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

DAILY OBSERVATION REPORT

Day: Wednesday Date: 12/21/16

(Name of contractor) personnel: Sarah Nelson, Justin Marra

(Name of Subcontractor) personnel: none

(Name of contractor) equipment: water level indicator, bailers, horiba, peristaltic pump,

(*Indicates active equipment)

Other Subcontractors:

VISITORS TO SITE:

none

PROJECT SCHEDULE ISSUES:

none

PROJECT BUDGET ISSUES:

none

ITEMS OF CONCERN:

COMMENTS:

ATTACHMENT(S) TO THIS REPORT:

SITE REPRESENTATIVE:

Name: Sarah Nelson
cc:

Appendix C

Monitoring Well Purging/Sampling Logs

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EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
TPM-01	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	Overcast, 25 F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
down 0.4 ft	1642	1"

Purge Date:	Purge Time:
12.21.16	1651-1711
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
24.52	0.041	down 0.4 ft
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.27	0.87	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
21.25	2.61	Pine environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1651	5.45	0	0.25	7.03	-37	8.31	1.26	1.69	133
1655	10.20	1.00	0.25	6.92	-101	9.72	1.22	0.59	198
1659	13.78	2	0.25	6.94	-114	10.03	1.19	0.56	87.3
1703	15.78	3	0.25	6.96	-119	10.07	1.19	0.50	123
1707	15.70	4	0.25	6.95	-121	9.74	1.20	0.51	276
1711		5	0.25	6.97	-129	10.00	1.24	0.43	507
			Purged dry at 1711						

Total Quantity of Water Removed (liters):	5.0	Sampling Time:	1056
Samplers:	SN/JM	Split Sample With:	none
Sampling Date:	12.22.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe 1.98 purged dry on 12.21.16, sampled with bailer on 12.22.16

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	**EA Personnel:**	**Client:**
TPM-02	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	overcast, 31 F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Up 2.5 ft.	1334	1"

Purge Date:	**Purge Time:**
12.21.16	1343-1351
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
28.18	0.041	Up 2.5 ft
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
6.82	0.88	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
21.36	2.63	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1343	11.22	0	0.25	6.66	-88	11.11	1.41	0.99	51.7
1347	13.98	1	0.25	6.64	-106	10.73	1.41	0.73	44.6
1351		2	0.25	6.63	-109	10.55	1.38	0.64	39.6
		Purged dry at 1355							

Total Quantity of Water Removed (liters):	2.0	**Sampling Time:**	1000
Samplers:	JM/SN	**Split Sample With:**	none
Sampling Date:	12.22.16	**Sample Type:**	grab / gw

COMMENTS AND OBSERVATIONS: Fe 1.98 purged dry on 12.21.16, sampled with bailer on 12.22.16

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: TPM-03	**EA Personnel:** SN/JM	**Client:** NYSDEC
Location: Clinton West Plaza	**Well Condition:** Good	**Weather:** overcast
Sounding Method: Heron Skinny dipper WLI	**Gauge Date:** 12.21.16	**Measurement Ref:** TOC
Stick Up/Down (ft): down 0.5 ft	**Gauge Time:** 1400	**Well Diameter (in):** 1"

Purge Date: 12.21.16	**Purge Time:** 1409-1425
Purge Method: Low Flow	**Field Technician:** SN/JM

Well Volume

A. Well Depth (ft): 21.31	**D. Well Volume (ft):** 0.041	**Depth/Height of Top of PVC:** down 0.5 ft
B. Depth to Water (ft): 4.50	**E. Well Volume (gal) C*D):** 0.69	**Pump Type:** Peristaltic Pump
C. Liquid Depth (ft) (A-B): 16.81	**F. Three Well Volumes (gal) (E3):** 2.07	**Pump Designation:** Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1409	2.35	0	0.25	6.80	-54	12.15	1.29	1.01	288
1413	9.02	1	0.25	6.69	-76	11.82	1.28	0.66	303
1417	14.35	2	0.25	6.66	-72	12.19	1.26	0.59	179.0
1421	15.15	3	0.25	6.66	-65	12.31	1.27	0.55	218
1425		4	0.25	6.65	-59	12.45	1.25	0.54	249
		Purged dry at 1429							

Total Quantity of Water Removed (liters):	4.0	**Sampling Time:**	1025
Samplers:	SN/JM	**Split Sample With:**	none
Sampling Date:	12.22.16	**Sample Type:**	grab / gw

COMMENTS AND OBSERVATIONS: Fe 1.98 purged dry on 12.21.16, sampled with bailer on 12.22.16
well housing is loose from pavement

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MMW-01	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	overcast, light snow, ~30 F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.4'	1239	1.5"

Purge Date:	Purge Time:
12.22.16	1246-1318
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
19.12	0.092	Down 0.4'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.05	1.48	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
16.07	4.44	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1246	3.20	0	0.25	7.42	-41	10.29	1.12	1.11	109
1250	3.23	1	0.25	6.94	-72	10.32	1.09	0.64	15.9
1254	3.26	2	0.25	6.93	-78	10.54	1.07	0.57	5.5
1258	3.30	3	0.25	6.92	-83	10.68	1.08	0.53	33.5
1302	3.31	4	0.25	6.92	-87	10.86	1.06	0.5	32.3
1306	3.31	5	0.25	6.92	-88	10.97	1.06	0.47	24.5
1310	3.31	6	0.25	6.91	-89	11.15	1.07	0.46	15.6
1314	3.31	7	0.25	6.90	-89	11.15	1.07	0.46	15.2
1318	3.32	8	0.25	6.90	-89	11.16	1.07	0.46	14.3

Total Quantity of Water Removed (liters):	8.0	**Sampling Time:**	1025
Samplers:	SN/JM	**Split Sample With:**	none
Sampling Date:	12.22.16	**Sample Type:**	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MMW-02	JM/SN	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	overcast, cloudy, ~35 F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.3'	1527	1.5"

Purge Date:	Purge Time:
12.21.16	1530-1602
Purge Method:	**Field Technician:**
Low Flow	JM/SN

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
19.16	0.092	Down 0.3'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.64	1.43	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
15.52	4.28	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1530	4.4	0	0.25	7.08	-27	11.92	0.776	0.83	25.9
1534	4.79	1	0.25	6.94	-18	12.23	0.774	0.54	38.2
1538	5.02	2	0.25	6.85	-34	12.52	0.803	0.47	26.2
1542	5.31	3	0.25	6.79	-77	12.68	0.891	0.43	17.9
1546	5.56	4	0.25	6.77	-90	12.75	0.923	0.42	19.5
1550	5.88	5	0.25	6.78	-100	12.63	0.933	0.39	23.5
1554	6.01	6	0.25	6.86	-110	12.76	0.954	0.37	25.9
1558	6.20	7	0.25	6.73	-113	12.75	0.978	0.36	21.1
1602	6.40	8	0.25	6.88	-118	12.73	0.972	0.36	19.7

Total Quantity of Water Removed (liters):	8.0	Sampling Time:	1602
Samplers:	SN/JM	Split Sample With:	ms/msd
Sampling Date:	12.21.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MMW-03	JM/SN	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Ok, broken bolts	35 F, overcast
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.4'		1.5"

Purge Date:	Purge Time:
12.21.16	1448-1506
Purge Method:	**Field Technician:**
Low Flow	

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
19.15	0.092	Down 0.4'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.65	1.43	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
15.50	4.28	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1448	5.85	0	0.25	6.50	-91	11.64	1.33	0.82	3.3
1452	8.42	1	0.25	6.52	-110	12.10	1.18	0.59	0
1456	9.73	2	0.25	6.51	-107	12.20	1.15	0.56	0.5
1502	11.43	3	0.25	6.52	-106	12.29	1.13	0.52	7.4
1506		4	0.25	6.51	-106	12.40	1.13	0.50	9.8

Total Quantity of Water Removed (liters):	4	Sampling Time:	1506
Samplers:	JM/SN	Split Sample With:	none
Sampling Date:	12.21.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING PURGE FORM

Well I.D.: MMW-04	**EA Personnel:** SN/JM	**Client:** NYSDEC
Location: Clinton West Plaza	**Well Condition:** Good	**Weather:** overcast, ~32F
Sounding Method: Heron Skinny dipper WLI	**Gauge Date:** 12.21.16	**Measurement Ref:** TOC
Stick Up/Down (ft): Down 0.4'	**Gauge Time:** 918	**Well Diameter (in):** 1.5"

Purge Date: 12.22.16	**Purge Time:** 1159-1215
Purge Method: Low Flow	**Field Technician:** SN/JM

Well Volume

A. Well Depth (ft): 29.12	**D. Well Volume (ft):** 0.092	**Depth/Height of Top of PVC:** Down 0.4'
B. Depth to Water (ft): 4.55	**E. Well Volume (gal) C*D):** 2.26	**Pump Type:** Peristaltic Pump
C. Liquid Depth (ft) (A-B): 24.57	**F. Three Well Volumes (gal) (E3):** 6.78	**Pump Designation:** Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1159	5.94	0	0.25	6.94	-46	11.8	1.31	1.79	17.4
1203	7.36	1	0.25	6.93	-113	11.77	1.31	0.89	5.0
1207	8.44	2	0.25	6.95	-116	11.95	1.30	0.69	0
1211	9.31	3	0.25	6.95	-117	12.20	1.30	0.74	0
1215	10.41	4	0.25	6.92	-115	12.30	1.29	0.71	0

Total Quantity of Water Removed (liters):	4	**Sampling Time:**	1215
Samplers:	SN/JM	**Split Sample With:**	none
Sampling Date:	12.22.16	**Sample Type:**	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING PURGE FORM

Well I.D.:	EA Personnel:	Client:
TPMW-3	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	overcast, ~30F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.3'	1414	1"

Purge Date:	Purge Time:
12.22.16	1422-1450
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
10.82	0.041	Down 0.3'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.55	0.30	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
7.27	0.89	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1422	4.16	0	0.25	7.34	-16	9.10	0.868	0.90	797
1426	4.2	1	0.25	7.20	-93	10.15	0.734	0.46	185
1430	4.22	2	0.25	7.24	-119	10.11	0.714	0.47	261
1434	4.24	3	0.25	7.28	-146	10.21	0.700	0.44	34.5
1438	4.25	4	0.25	7.30	-159	10.26	0.689	0.43	19.4
1442	4.26	5	0.25	7.31	-164	10.28	0.682	0.42	7.1
1446	4.26	6	0.25	7.31	-168	10.28	0.675	0.43	4.1
1450	4.26	7	0.25	7.32	-170	10.20	0.674	0.46	3.9

Total Quantity of Water Removed (liters):	7	Sampling Time:	1450
Samplers:	SN/JM	Split Sample With:	duplicate
Sampling Date:	12.22.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

well cover not bolted down, soft bottom

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
TPMW-4	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	Good	overcast, ~30F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.3'	1507	1"

Purge Date:	Purge Time:
12.22.16	1513-1548
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
15.48	0.041	Down 0.3'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.62	0.49	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
11.86	1.46	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1513	3.74	0	0.25	6.99	-80	8.97	1.26	1.00	302
1517	3.93	1	0.25	7.07	-78	9.70	1.17	0.69	179
1521	3.85	2	0.25	7.10	-93	9.99	1.09	0.64	152
1525	3.87	3	0.25	7.29	-120	9.93	1.05	0.83	115
1529	3.9	4	0.25	7.17	-128	10.30	1.02	0.55	94.3
1533	3.93	5	0.25	7.17	-138	10.33	1.03	0.51	42.3
1536	3.96	6	0.25	7.18	-145	10.34	1.01	0.49	19.1
1540	3.99	7	0.25	7.19	-151	10.39	1.00	0.48	5.3
1544	4.02	8	0.25	7.19	-155	10.41	1.00	0.47	0
1548		9	0.25	7.19	-158	10.42	1.00	0.46	0

Total Quantity of Water Removed (liters):	9	Sampling Time:	1548
Samplers:	SN/JM	Split Sample With:	none
Sampling Date:	12.22.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe - 1.98 / sampled with bailer

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING PURGE FORM

Well I.D.: TPMW-6	**EA Personnel:** SN/JM	**Client:** NYSDEC
Location: Clinton West Plaza	**Well Condition:** Good	**Weather:** 31 F sunny
Sounding Method: Heron Skinny dipper WLI	**Gauge Date:** 12.21.16	**Measurement Ref:** TOC
Stick Up/Down (ft): Down 0.4'	**Gauge Time:** 1208	**Well Diameter (in):** 1"

Purge Date: 12.21.16	**Purge Time:** 1218-1238
Purge Method: Low Flow	**Field Technician:** SN/JM

Well Volume

A. Well Depth (ft): 15.52	**D. Well Volume (ft):** 0.041	**Depth/Height of Top of PVC:** Down 0.4'
B. Depth to Water (ft): 3.8	**E. Well Volume (gal) C*D):** 0.48	**Pump Type:** Peristaltic Pump
C. Liquid Depth (ft) (A-B): 11.72	**F. Three Well Volumes (gal) (E3):** 1.44	**Pump Designation:** Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1218	7.52	0	0.25	6.30	-16	12.59	0.972	1.14	407
1222	8.80	1	0.25	6.40	-71	12.69	0.954	0.89	301
1226	10.30	2	0.25	6.46	-82	12.8	0.956	0.81	122
1230	11.84	3	0.25	6.47	-88	12.85	0.960	0.82	90.9
1234	12.80	4	0.25	6.46	-93	13.02	0.967	1.47	41.6
1238	12.80	5	0.25	6.46	-88	13.19	0.981	2.73	32.4
		Purged dry at 1242							

Total Quantity of Water Removed (liters):	5.0	**Sampling Time:**	940
Samplers:	12.22.16	**Split Sample With:**	none
Sampling Date:	SN/JM	**Sample Type:**	grab / gw

COMMENTS AND OBSERVATIONS: Fe 1.98 purged dry on 12.21.16, sampled with bailer on 12.22.16

EA Engineering PC and its Affliate,
EA Science and Technology

GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	EA Personnel:	Client:
MW-14	SN/JM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Clinton West Plaza	good	overcast, ~30 F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny dipper WLI	12.21.16	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Down 0.5'	1331	.75"

Purge Date:	Purge Time:
12.22.16	1338-1354
Purge Method:	**Field Technician:**
Low Flow	SN/JM

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
14.49	0.023	Down 0.5'
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
4.25	0.24	Peristaltic Pump
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
10.24	0.71	Pine Environmental

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (liters)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (NTU)
1338	4.31	0	0.25	7.49	-70	9.20	0.757	2.59	96.6
1342	4.31	1	0.25	7.48	-49	9.04	0.726	4.03	15.7
1346	4.31	2	0.25	7.49	-44	8.83	0.722	4.40	6.0
1350	4.31	3	0.25	7.50	-41	8.66	0.720	4.56	0
1354	4.31	4	0.25	7.51	-40	8.73	0.719	4.58	0

Total Quantity of Water Removed (liters):	4	Sampling Time:	1354
Samplers:	JM/SN	Split Sample With:	none
Sampling Date:	12.22.16	Sample Type:	grab / gw

COMMENTS AND OBSERVATIONS: Fe 1.98 purged dry on 12.21.16, sampled with bailer on 12.22.16

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OSR – 3

Structure 1

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Sarah Nelson Date/Time Prepared 12/21/16 ~11:00

Preparer's Affiliation EA consultant Phone No. 3154314610

Purpose of Investigation SVI - indoor/outdoor air sampling

1. OCCUPANT:

Interviewed: (Y) / N

Last Name: Forsgatch First Name: Scott

Address: 412 Center St

County: Cortland

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location 2 Age of Occupants ~55

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / (N)

Last Name: Issaks First Name: Brian

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential) School Commercial/Multi-use
Industrial Church Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
(Cape Cod)	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? 1

If the property is commercial, type?

Business Type(s) NA

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics: upstairs downstairs + basement

Number of floors 3 Building age ~1900

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

NA

Airflow near source

NA

Outdoor air infiltration

NA

Infiltration into air ducts

NA

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other partially Finisha
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with paint flex seal no rugs	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured +	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with paint	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N - 2 basement			
k. Water in sump?	Y / N / not applicable - sealed sump system			

Basement/Lowest level depth below grade: 3.4 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: on demand

Boiler/furnace located in: Basement Outdoors Main Floor Other_____

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? (Y) / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

look to be in good condition, sealed properly

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	recreation - laundry / music area
1st Floor	living - kitchen
2nd Floor	sleeping - bedrooms
3rd Floor	
4th Floor	

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y (N)

b. Does the garage have a separate heating unit? Y / (N) / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) (Y) / N / NA Please specify Lawnmower

d. Has the building ever had a fire? Y / (N) When?

e. Is a kerosene or unvented gas space heater present? Y (N) Where?

f. Is there a workshop or hobby/craft area? (Y) / N Where & Type? music area

g. Is there smoking in the building? (Y) / N How frequently? outside

h. Have cleaning products been used recently? Y / (N) When & Type?

i. Have cosmetic products been used recently? Y / (N) When & Type?

j. Has painting/staining been done in the last 6 months? Y (N) Where & When? _____

k. Is there new carpet, drapes or other textiles? (Y) N Where & When? sandpracing not new material

l. Have air fresheners been used recently? Y (N) When & Type? _____

m. Is there a kitchen exhaust fan? (Y) N If yes, where vented? outside

n. Is there a bathroom exhaust fan? Y (N) If yes, where vented? _____

o. Is there a clothes dryer? (Y) N If yes, is it vented outside? (Y) N

p. Has there been a pesticide application? Y (N) When & Type? _____

Are there odors in the building? Y (N)
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly)
Yes, use dry-cleaning infrequently (monthly or less)
Yes, work at a dry-cleaning service
(No)
Unknown

Is there a radon mitigation system for the building/structure? (Y) N Date of Installation: 6.16.15
Is the system active or passive? (Active)/Passive

9. WATER AND SEWAGE

Water Supply:	(Public Water)	Drilled Well	Driven Well	Dug Well	Other: _____
Sewage Disposal:	(Public Sewer)	Septic Tank	Leach Field	Dry Well	Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency) NA

a. Provide reasons why relocation is recommended: NO

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

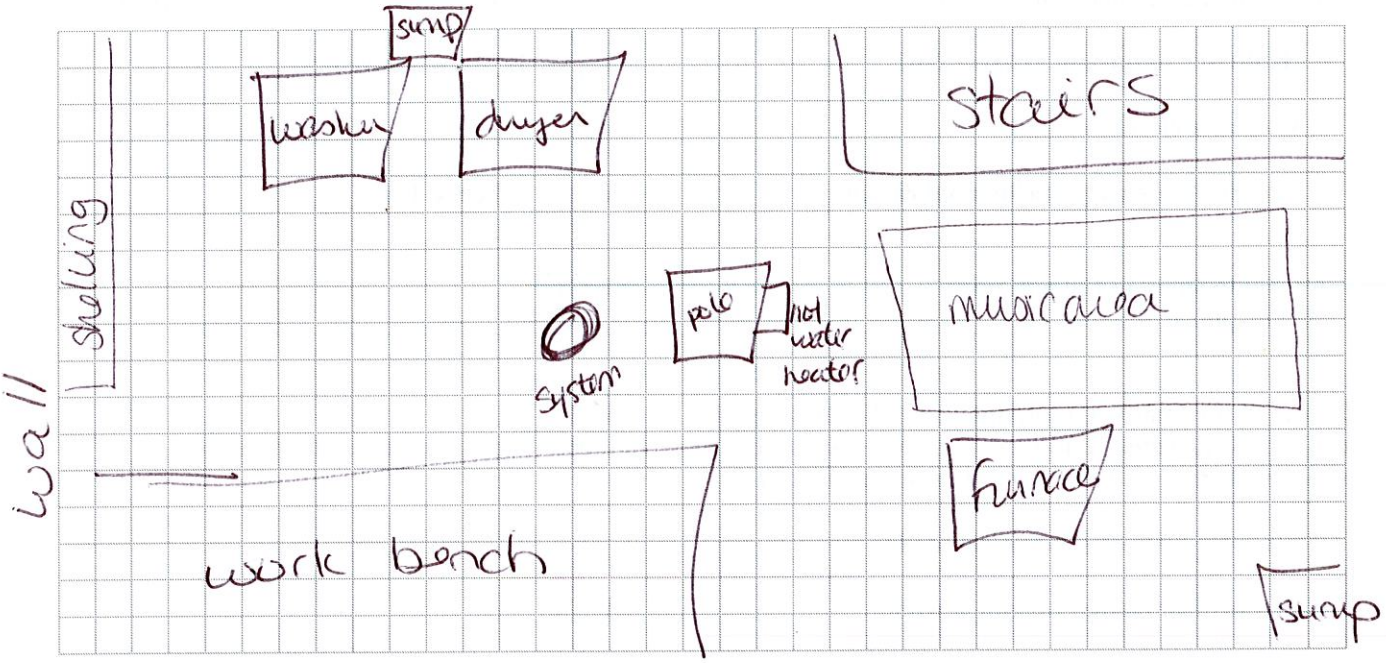
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

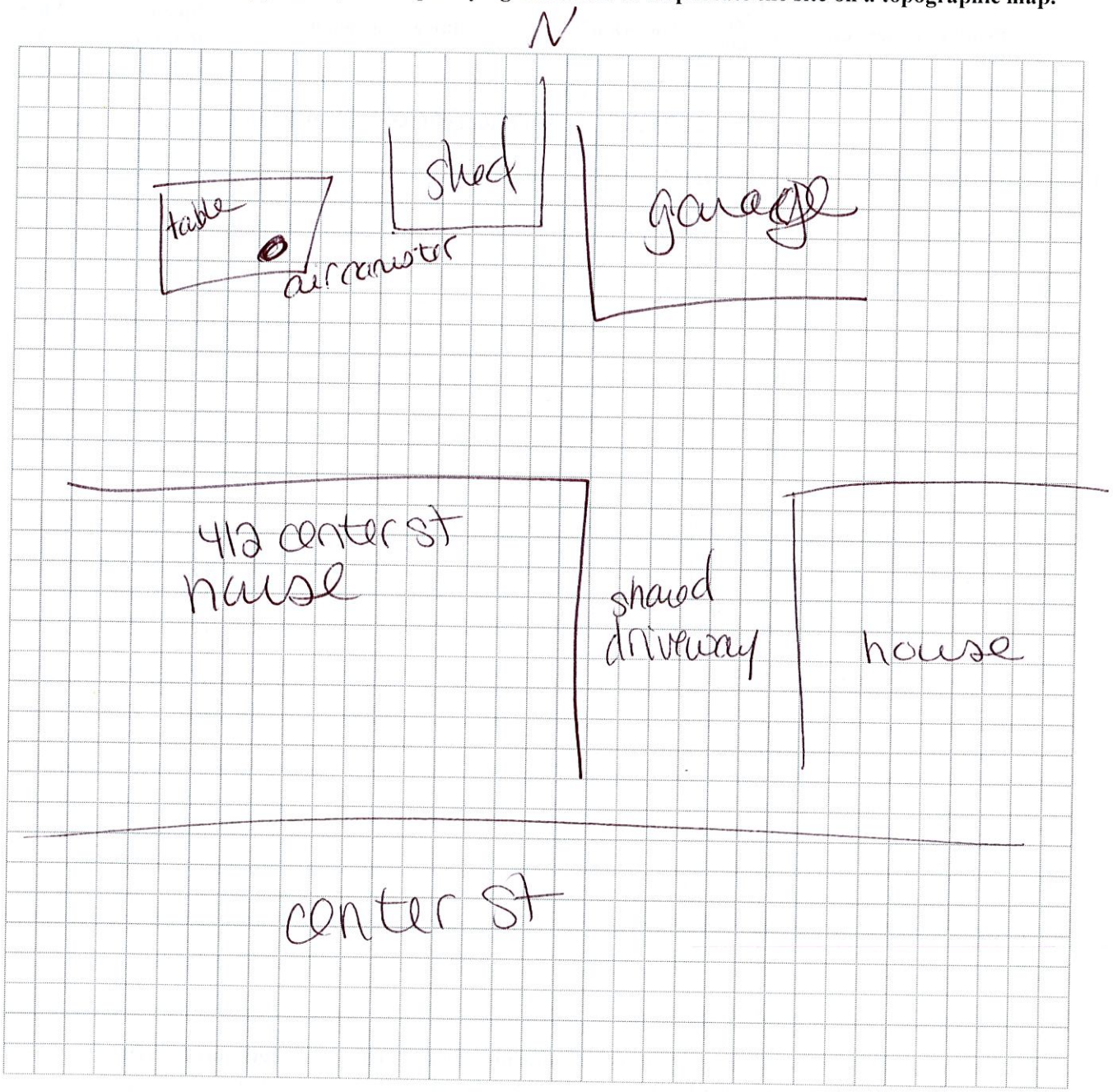


First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ppBRae 3000 & 12360

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
on washer	Xtra	51oz	Good (u)	biodegradable surfactants	0	y
by washer	Clorox bleach	64oz	good (u)	bleach	0	y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

FIELD AIR SAMPLING FORM

EA Engineering and Its Affiliate EA Science & Technology 6712 Brooklawn Parkway, Suite 104 Syracuse, NY 13211		Project #:	1490725
		Project Name:	NYSDEC - Clinton West Plaza
		Location:	Ithaca, NY
		Project Manager:	Robert Casey

Sample Location Information:

Site ID Number: 755015				Sampler(s):	Justin M. / Chris S. / Sarah N.
PID Meter Used:(Model, Serial #)	PPB Rae R12360			Building I.D. No.:	Structure 01

SUMMA Canister Record:

INDOOR AIR - DUPLICATE		INDOOR AIR - BASEMENT AIR		SUBSLAB SOIL GAS		OUTDOOR AIR	
Flow Regulator No.:	30831	Flow Regulator No.:	22299	Flow Regulator No.:		Flow Regulator No.:	20762
Canister Serial No.:	N0803	Canister Serial No.:	N1702	Canister Serial No.:		Canister Serial No.:	N1652
Start Date/Time:	12.21.16 1005	Start Date/Time:	12.21.16 1005	Start Date/Time:		Start Date/Time:	12.21.16 1030
Start Pressure: (inches Hg)	-30+	Start Pressure: (inches Hg)	-30	Start Pressure: (inches Hg)		Start Pressure: (inches Hg)	-28
Stop Date/Time:	12.22.16 1008	Stop Date/Time:	12.22.16 1008	Stop Date/Time:		Stop Date/Time:	12.22.16 1000
Stop Pressure: (inches Hg)	-4	Stop Pressure: (inches Hg)	-5	Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)	-5
Sample ID: 755015-DUP-01-122116		Sample ID: 755015-IA-01-122116		Sample ID:		Sample ID: 755015-OA-01-122116	

Other Sampling Information:

Basement or Crawl Space?	basement	Story/Level	basement	Basement or Crawl Space?		Direction from Building	North
Room	basement	Room	basement	Floor Slab Thickness (inches) *[if present]*		Distance from Building	~75 ft
Indoor Air Temp	~65 F	Indoor Air Temp	~65 F	Potential Vapor Entry Points Observed?		Intake Height Above Ground Level (ft.)	3 ft
Barometric Pressure?	29.93	Barometric Pressure?	29.93	Ground Surface Condition (Crawl Space Only)		Intake Tubing Used?	yes
Intake Height Above Floor Level (ft.)	~2.5 ft	Intake Height Above Floor Level (ft.)	~2.5 ft	If slab, intake Depth If Crawl Space, intake height		Distance to nearest Roadway	~100 ft
Noticeable Odor?	none	Noticeable Odor?	none	Noticeable Odor?		Noticeable Odor?	none
PID Reading (ppb)	15 ppb	PID Reading (ppb)	15 ppb	PID Reading (ppb)		PID Reading (ppb)	0
Duplicate Sample?	**yes**	Duplicate Sample?	**yes**	Duplicate Sample?		Duplicate Sample?	no

Comments:

No sub slab collected due to the SSDS installed in June 2015.

Sampler Signature: Sarah Nelson

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Appendix D

Data Usability Summary Reports

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
CLINTON WEST PLAZA, ITHACA, NEW YORK

Client: EA Engineering, Science & Technology, Inc., Syracuse, New York
SDG: H6277
Laboratory: Chemtech, Mountainside, New Jersey
Site: Clinton West Plaza, Ithaca, New York
Date: February 6, 2017

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	755015-MW-14	H6277-01	Water
2	755015-MMW-01	H6277-02	Water
2DL	755015-MMW-01DL	H6277-02DL	Water
3	755015-TPM-01	H6277-03	Water
4	755015-MMW-04	H6277-04	Water
5	755015-TPMW-06	H6277-05	Water
6	755015-TPM-02	H6277-06	Water
7	755015-TPM-03	H6277-07	Water
8	755015-TPMW-3	H6277-08	Water
8DL	755015-TPMW-3DL	H6277-08DL	Water
9	755015-TPMW-4	H6277-09	Water
10	TRIPBLANK	H6277-10	Water
11	755015-DUPLICATE	H6277-11	Water
11DL	755015-DUPLICATEDL	H6277-11DL	Water

A Data Usability Summary Review was performed on the analytical data for ten aqueous samples and one aqueous trip blank sample collected by EA Engineering on December 22, 2016 at the Clinton West Plaza site in Ithaca, New York. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"* and the *Standard Methods for the Examination of Water and Wastewater.*

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260C

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-24, Revision 4, September 2014: Validating Volatile Organic Compounds by SW-846 Method 8260B & 8260C;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Initial and continuing calibration summaries
- Compound Quantitation
- Internal standard area and retention time summary forms
- Field Duplicate sample precision
- Tentatively Identified Compounds (TICs)

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Eight compounds were qualified as estimated in two samples due to low internal standard area counts.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- A MS/MSD sample was not collected.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
TRIPBLANK	ND	-	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Compound Quantitation

- EDS Sample ID #2 exhibited high concentrations of vinyl chloride and cis-1,2-dichloroethene over the calibration range of the instrument and were flagged (E) by the laboratory. The sample was reanalyzed at a 50X dilution and the dilution results for these compounds should be used for reporting purposes.
- EDS Sample ID #s 8 and 11 exhibited high concentrations of vinyl chloride and cis-1,2-dichloroethene over the calibration range of the instrument and were flagged (E) by the laboratory. The samples were reanalyzed at a 5X dilution and the dilution results for these compounds should be used for reporting purposes.

Internal Standard (IS) Area Performance

- The following table presents samples that exceeded the -50%/+100% area criteria for internal standard areas. Non-detected results for the associated compounds are considered estimated and qualified (UJ). Positive results for the associated compounds are considered estimated and qualified (J). Non-detected compounds that exceed the lower limit by -25% area criteria are considered rejected (R) and unusable for project objectives.

Sample ID	Internal Standard	Area Count	Qualifier
3	1,4-Dichlorobenzene-d4	Low	J/UJ - Associated Compounds
11DL	1,4-Dichlorobenzene-d4	Low	J/UJ - Associated Compounds

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

VOC				
Compound	755015-TPMW-03 ug/L	755015-DUPLICATE ug/L	RPD	Qualifier
Vinyl chloride	360	370	3%	None
1,1-Dichloroethene	2.2	2.2	0%	
trans-1,2-Dichloroethene	1.7	1.7	0%	
cis-1,2-Dichloroethene	430	430	0%	
Trichloroethene	0.29	0.29	0%	

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/7/17

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

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2.1

Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MW-14	SDG No.:	H6277
Lab Sample ID:	H6277-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038109.D	1		12/28/16 19:38	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

MW216117

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3

2.1

Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MW-14	SDG No.:	H6277
Lab Sample ID:	H6277-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038109.D	1		12/28/16 19:38	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	0.57	J	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	46.9		61 - 141		94%	SPK: 50
1868-53-7	Dibromofluoromethane	48.9		69 - 133		98%	SPK: 50
2037-26-5	Toluene-d8	52.1		65 - 126		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.5		58 - 135		91%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	648082	7.86				
540-36-3	1,4-Difluorobenzene	1098480	8.78				
3114-55-4	Chlorobenzene-d5	879775	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	300382	13.52				

NW2/6/17

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2 3 2.1

Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-01	SDG No.:	H6277
Lab Sample ID:	H6277-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038110.D	1		12/28/16 20:05	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	3600 ~~1500~~	~~E~~	10 ~~0.2~~	10 ~~0.2~~	50 ~~1~~	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	2.5		0.2	0.2	1	ug/L
67-64-1	Acetone	2.4	J	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	5.9		0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1600 ~~1800~~	~~E~~	10 ~~0.2~~	10 ~~0.2~~	50 ~~1~~	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-01	SDG No.:	H6277
Lab Sample ID:	H6277-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038110.D	1		12/28/16 20:05	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	46.9		61 - 141		94%	SPK: 50
1868-53-7	Dibromofluoromethane	50.6		69 - 133		101%	SPK: 50
2037-26-5	Toluene-d8	51.9		65 - 126		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.5		58 - 135		91%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	663723	7.86				
540-36-3	1,4-Difluorobenzene	1119170	8.78				
3114-55-4	Chlorobenzene-d5	888803	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	305417	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-01DL	SDG No.:	H6277
Lab Sample ID:	H6277-02DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

use original results

D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038182.D	50		01/04/17 14:20	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	50	UD	10	10	50	ug/L
74-87-3	Chloromethane	50	UD	10	10	50	ug/L
75-01-4	Vinyl Chloride	3600	D	10	10	50	ug/L
74-83-9	Bromomethane	50	UD	10	10	50	ug/L
75-00-3	Chloroethane	50	UD	10	25	50	ug/L
75-69-4	Trichlorofluoromethane	50	UD	10	10	50	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	50	UD	10	10	50	ug/L
75-35-4	1,1-Dichloroethene	50	UD	10	10	50	ug/L
67-64-1	Acetone	250	UD	25	50	250	ug/L
75-15-0	Carbon Disulfide	50	UD	10	10	50	ug/L
1634-04-4	Methyl tert-butyl Ether	50	UD	17.5	25	50	ug/L
79-20-9	Methyl Acetate	50	UD	10	25	50	ug/L
75-09-2	Methylene Chloride	50	UD	10	10	50	ug/L
156-60-5	trans-1,2-Dichloroethene	50	UD	10	10	50	ug/L
75-34-3	1,1-Dichloroethane	50	UD	10	10	50	ug/L
110-82-7	Cyclohexane	50	UD	10	10	50	ug/L
78-93-3	2-Butanone	250	UD	66	130	250	ug/L
56-23-5	Carbon Tetrachloride	50	UD	10	10	50	ug/L
156-59-2	cis-1,2-Dichloroethene	1600	D	10	10	50	ug/L
74-97-5	Bromochloromethane	50	UD	10	25	50	ug/L
67-66-3	Chloroform	50	UD	10	10	50	ug/L
71-55-6	1,1,1-Trichloroethane	50	UD	10	10	50	ug/L
108-87-2	Methylcyclohexane	50	UD	10	10	50	ug/L
71-43-2	Benzene	50	UD	10	10	50	ug/L
107-06-2	1,2-Dichloroethane	50	UD	10	10	50	ug/L
79-01-6	Trichloroethene	50	UD	10	10	50	ug/L
78-87-5	1,2-Dichloropropane	50	UD	10	10	50	ug/L
75-27-4	Bromodichloromethane	50	UD	10	10	50	ug/L
108-10-1	4-Methyl-2-Pentanone	250	UD	50	50	250	ug/L
108-88-3	Toluene	50	UD	10	10	50	ug/L
10061-02-6	t-1,3-Dichloropropene	50	UD	10	10	50	ug/L
10061-01-5	cis-1,3-Dichloropropene	50	UD	10	10	50	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-01DL	SDG No.:	H6277
Lab Sample ID:	H6277-02DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

Use original results D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038182.D	50		01/04/17 14:20	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	50	UD	10	10	50	ug/L
591-78-6	2-Hexanone	250	UD	97	130	250	ug/L
124-48-1	Dibromochloromethane	50	UD	10	10	50	ug/L
106-93-4	1,2-Dibromoethane	50	UD	10	10	50	ug/L
127-18-4	Tetrachloroethene	50	UD	10	10	50	ug/L
108-90-7	Chlorobenzene	50	UD	10	10	50	ug/L
100-41-4	Ethyl Benzene	50	UD	10	10	50	ug/L
179601-23-1	m/p-Xylenes	100	UD	20	20	100	ug/L
95-47-6	o-Xylene	50	UD	10	10	50	ug/L
100-42-5	Styrene	50	UD	10	10	50	ug/L
75-25-2	Bromoform	50	UD	10	10	50	ug/L
98-82-8	Isopropylbenzene	50	UD	10	10	50	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	50	UD	10	10	50	ug/L
541-73-1	1,3-Dichlorobenzene	50	UD	10	10	50	ug/L
106-46-7	1,4-Dichlorobenzene	50	UD	10	10	50	ug/L
95-50-1	1,2-Dichlorobenzene	50	UD	10	10	50	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	50	UD	10	10	50	ug/L
120-82-1	1,2,4-Trichlorobenzene	50	UD	10	10	50	ug/L
87-61-6	1,2,3-Trichlorobenzene	50	UD	10	10	50	ug/L
123-91-1	1,4-Dioxane	5000	UD	5000	5000	5000	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	44.5		61 - 141		89%	SPK: 50
1868-53-7	Dibromofluoromethane	46.8		69 - 133		94%	SPK: 50
2037-26-5	Toluene-d8	46.7		65 - 126		93%	SPK: 50
460-00-4	4-Bromofluorobenzene	39.2		58 - 135		78%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	527179	7.86				
540-36-3	1,4-Difluorobenzene	873900	8.77				
3114-55-4	Chlorobenzene-d5	715518	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	238449	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-01	SDG No.:	H6277
Lab Sample ID:	H6277-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038189.D	1		01/04/17 17:29	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	32.2		0.5	1	5	ug/L
75-15-0	Carbon Disulfide	0.51	J	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-01	SDG No.:	H6277
Lab Sample ID:	H6277-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038189.D	1		01/04/17 17:29	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	UJ U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	UJ U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	UJ U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	UJ U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	UJ U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	UJ U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	UJ U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	UJ U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	46.4		61 - 141		93%	SPK: 50
1868-53-7	Dibromofluoromethane	48		69 - 133		96%	SPK: 50
2037-26-5	Toluene-d8	47.4		65 - 126		95%	SPK: 50
460-00-4	4-Bromofluorobenzene	40.4		58 - 135		81%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	514797	7.86				
540-36-3	1,4-Difluorobenzene	868520	8.78				
3114-55-4	Chlorobenzene-d5	719443	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	237740	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-04	SDG No.:	H6277
Lab Sample ID:	H6277-04	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038112.D	1		12/28/16 20:59	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	0.88	J	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	9.9		0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1		0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.65	J	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-MMW-04	SDG No.:	H6277
Lab Sample ID:	H6277-04	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038112.D	1		12/28/16 20:59	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	49.2		61 - 141		98%	SPK: 50
1868-53-7	Dibromofluoromethane	50.6		69 - 133		101%	SPK: 50
2037-26-5	Toluene-d8	52.5		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.8		58 - 135		92%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	626115	7.86				
540-36-3	1,4-Difluorobenzene	1078680	8.77				
3114-55-4	Chlorobenzene-d5	858113	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	298691	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-06	SDG No.:	H6277
Lab Sample ID:	H6277-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038113.D	1		12/28/16 21:26	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	3.2	J	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-06	SDG No.:	H6277
Lab Sample ID:	H6277-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038113.D	1		12/28/16 21:26	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.6		61 - 141		97%	SPK: 50
1868-53-7	Dibromofluoromethane	50.2		69 - 133		100%	SPK: 50
2037-26-5	Toluene-d8	52.3		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.9		58 - 135		90%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	620805	7.86				
540-36-3	1,4-Difluorobenzene	1058350	8.78				
3114-55-4	Chlorobenzene-d5	846320	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	284677	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-02	SDG No.:	H6277
Lab Sample ID:	H6277-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038114.D	1		12/28/16 21:53	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	45.5		0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-02	SDG No.:	H6277
Lab Sample ID:	H6277-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038114.D	1		12/28/16 21:53	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	49.9		61 - 141		100%	SPK: 50
1868-53-7	Dibromofluoromethane	50.9		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	52.7		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.8		58 - 135		92%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	648944	7.86				
540-36-3	1,4-Difluorobenzene	1114170	8.77				
3114-55-4	Chlorobenzene-d5	904611	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	320318	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-03	SDG No.:	H6277
Lab Sample ID:	H6277-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038115.D	1		12/28/16 22:20	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	27.1		0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPM-03	SDG No.:	H6277
Lab Sample ID:	H6277-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038115.D	1		12/28/16 22:20	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	48.9		61 - 141		98%	SPK: 50
1868-53-7	Dibromofluoromethane	50.1		69 - 133		100%	SPK: 50
2037-26-5	Toluene-d8	52.6		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.9		58 - 135		92%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	630277	7.86				
540-36-3	1,4-Difluorobenzene	1092200	8.78				
3114-55-4	Chlorobenzene-d5	896401	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	298122	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-3	SDG No.:	H6277
Lab Sample ID:	H6277-08	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038116.D	1		12/28/16 22:47	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	360 ~~320~~	~~E~~	~~0.2~~	~~0.2~~	5 ~~1~~	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	2.2		0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1.7		0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	430 ~~450~~	~~E~~	~~0.2~~	~~0.2~~	5 ~~1~~	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.29	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-3	SDG No.:	H6277
Lab Sample ID:	H6277-08	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038116.D	1		12/28/16 22:47	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.5		61 - 141		95%	SPK: 50
1868-53-7	Dibromofluoromethane	50.8		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	52.3		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.2		58 - 135		92%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	639827	7.86				
540-36-3	1,4-Difluorobenzene	1071080	8.77				
3114-55-4	Chlorobenzene-d5	867713	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	308444	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-3DL	SDG No.:	H6277
Lab Sample ID:	H6277-08DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

Use original results D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038183.D	5		01/04/17 14:47	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	5	UD	1	1	5	ug/L
74-87-3	Chloromethane	5	UD	1	1	5	ug/L
75-01-4	Vinyl Chloride	360	D	1	1	5	ug/L
74-83-9	Bromomethane	5	UD	1	1	5	ug/L
75-00-3	Chloroethane	5	UD	1	2.5	5	ug/L
75-69-4	Trichlorofluoromethane	5	UD	1	1	5	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	5	UD	1	1	5	ug/L
75-35-4	1,1-Dichloroethene	5	UD	1	1	5	ug/L
67-64-1	Acetone	25	UD	2.5	5	25	ug/L
75-15-0	Carbon Disulfide	5	UD	1	1	5	ug/L
1634-04-4	Methyl tert-butyl Ether	5	UD	1.8	2.5	5	ug/L
79-20-9	Methyl Acetate	5	UD	1	2.5	5	ug/L
75-09-2	Methylene Chloride	5	UD	1	1	5	ug/L
156-60-5	trans-1,2-Dichloroethene	5	UD	1	1	5	ug/L
75-34-3	1,1-Dichloroethane	5	UD	1	1	5	ug/L
110-82-7	Cyclohexane	5	UD	1	1	5	ug/L
78-93-3	2-Butanone	25	UD	6.6	12.5	25	ug/L
56-23-5	Carbon Tetrachloride	5	UD	1	1	5	ug/L
156-59-2	cis-1,2-Dichloroethene	430	D	1	1	5	ug/L
74-97-5	Bromochloromethane	5	UD	1	2.5	5	ug/L
67-66-3	Chloroform	5	UD	1	1	5	ug/L
71-55-6	1,1,1-Trichloroethane	5	UD	1	1	5	ug/L
108-87-2	Methylcyclohexane	5	UD	1	1	5	ug/L
71-43-2	Benzene	5	UD	1	1	5	ug/L
107-06-2	1,2-Dichloroethane	5	UD	1	1	5	ug/L
79-01-6	Trichloroethene	5	UD	1	1	5	ug/L
78-87-5	1,2-Dichloropropane	5	UD	1	1	5	ug/L
75-27-4	Bromodichloromethane	5	UD	1	1	5	ug/L
108-10-1	4-Methyl-2-Pentanone	25	UD	5	5	25	ug/L
108-88-3	Toluene	5	UD	1	1	5	ug/L
10061-02-6	t-1,3-Dichloropropene	5	UD	1	1	5	ug/L
10061-01-5	cis-1,3-Dichloropropene	5	UD	1	1	5	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-3DL	SDG No.:	H6277
Lab Sample ID:	H6277-08DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

Use original results D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038183.D	5		01/04/17 14:47	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	5	UD	1	1	5	ug/L
591-78-6	2-Hexanone	25	UD	9.7	12.5	25	ug/L
124-48-1	Dibromochloromethane	5	UD	1	1	5	ug/L
106-93-4	1,2-Dibromoethane	5	UD	1	1	5	ug/L
127-18-4	Tetrachloroethene	5	UD	1	1	5	ug/L
108-90-7	Chlorobenzene	5	UD	1	1	5	ug/L
100-41-4	Ethyl Benzene	5	UD	1	1	5	ug/L
179601-23-1	m/p-Xylenes	10	UD	2	2	10	ug/L
95-47-6	o-Xylene	5	UD	1	1	5	ug/L
100-42-5	Styrene	5	UD	1	1	5	ug/L
75-25-2	Bromoform	5	UD	1	1	5	ug/L
98-82-8	Isopropylbenzene	5	UD	1	1	5	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5	UD	1	1	5	ug/L
541-73-1	1,3-Dichlorobenzene	5	UD	1	1	5	ug/L
106-46-7	1,4-Dichlorobenzene	5	UD	1	1	5	ug/L
95-50-1	1,2-Dichlorobenzene	5	UD	1	1	5	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	5	UD	1	1	5	ug/L
120-82-1	1,2,4-Trichlorobenzene	5	UD	1	1	5	ug/L
87-61-6	1,2,3-Trichlorobenzene	5	UD	1	1	5	ug/L
123-91-1	1,4-Dioxane	500	UD	500	500	500	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.3		61 - 141		91%	SPK: 50
1868-53-7	Dibromofluoromethane	47.5		69 - 133		95%	SPK: 50
2037-26-5	Toluene-d8	47.1		65 - 126		94%	SPK: 50
460-00-4	4-Bromofluorobenzene	38.9		58 - 135		78%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	518394	7.86				
540-36-3	1,4-Difluorobenzene	873459	8.77				
3114-55-4	Chlorobenzene-d5	717223	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	241569	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-4	SDG No.:	H6277
Lab Sample ID:	H6277-09	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038117.D	1		12/28/16 23:15	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	70.5		0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	33.3		0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.38	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-TPMW-4	SDG No.:	H6277
Lab Sample ID:	H6277-09	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038117.D	1		12/28/16 23:15	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.2		61 - 141		94%	SPK: 50
1868-53-7	Dibromofluoromethane	50.8		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	52.4		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	45.2		58 - 135		90%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	627579	7.86				
540-36-3	1,4-Difluorobenzene	1040930	8.77				
3114-55-4	Chlorobenzene-d5	839902	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	295881	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	TRIPBLANK	SDG No.:	H6277
Lab Sample ID:	H6277-10	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038106.D	1		12/28/16 18:17	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

MW 2/6/17

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	TRIPBLANK	SDG No.:	H6277
Lab Sample ID:	H6277-10	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038106.D	1		12/28/16 18:17	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	47.5		61 - 141		95%	SPK: 50
1868-53-7	Dibromofluoromethane	50		69 - 133		100%	SPK: 50
2037-26-5	Toluene-d8	52.2		65 - 126		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	46.5		58 - 135		93%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	641469	7.86				
540-36-3	1,4-Difluorobenzene	1081720	8.77				
3114-55-4	Chlorobenzene-d5	875453	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	309263	13.52				

MW 2/6/17

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-DUPLICATE	SDG No.:	H6277
Lab Sample ID:	H6277-11	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038118.D	1		12/28/16 23:42	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	~~330~~ 370	~~E~~	~~0.2~~ 1	~~0.2~~ 1	5 ~~1~~	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	2.2		0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1.7		0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	430 ~~460~~	~~E~~	~~0.2~~ 1	~~0.2~~ 1	5 ~~1~~	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.29	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-DUPLICATE	SDG No.:	H6277
Lab Sample ID:	H6277-11	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038118.D	1		12/28/16 23:42	VN122816

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	UJ U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100	U	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	46.8		61 - 141		94%	SPK: 50
1868-53-7	Dibromofluoromethane	50.6		69 - 133		101%	SPK: 50
2037-26-5	Toluene-d8	51.8		65 - 126		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.5		58 - 135		89%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	638901	7.86				
540-36-3	1,4-Difluorobenzene	1063280	8.77				
3114-55-4	Chlorobenzene-d5	836656	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	292073	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-DUPLICATEDL	SDG No.:	H6277
Lab Sample ID:	H6277-11DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

D

use original results

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038184.D	5		01/04/17 15:14	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	5	UD	1	1	5	ug/L
74-87-3	Chloromethane	5	UD	1	1	5	ug/L
75-01-4	Vinyl Chloride	370	D	1	1	5	ug/L
74-83-9	Bromomethane	5	UD	1	1	5	ug/L
75-00-3	Chloroethane	5	UD	1	2.5	5	ug/L
75-69-4	Trichlorofluoromethane	5	UD	1	1	5	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	5	UD	1	1	5	ug/L
75-35-4	1,1-Dichloroethene	5	UD	1	1	5	ug/L
67-64-1	Acetone	25	UD	2.5	5	25	ug/L
75-15-0	Carbon Disulfide	5	UD	1	1	5	ug/L
1634-04-4	Methyl tert-butyl Ether	5	UD	1.8	2.5	5	ug/L
79-20-9	Methyl Acetate	5	UD	1	2.5	5	ug/L
75-09-2	Methylene Chloride	5	UD	1	1	5	ug/L
156-60-5	trans-1,2-Dichloroethene	5	UD	1	1	5	ug/L
75-34-3	1,1-Dichloroethane	5	UD	1	1	5	ug/L
110-82-7	Cyclohexane	5	UD	1	1	5	ug/L
78-93-3	2-Butanone	25	UD	6.6	12.5	25	ug/L
56-23-5	Carbon Tetrachloride	5	UD	1	1	5	ug/L
156-59-2	cis-1,2-Dichloroethene	430	D	1	1	5	ug/L
74-97-5	Bromochloromethane	5	UD	1	2.5	5	ug/L
67-66-3	Chloroform	5	UD	1	1	5	ug/L
71-55-6	1,1,1-Trichloroethane	5	UD	1	1	5	ug/L
108-87-2	Methylcyclohexane	5	UD	1	1	5	ug/L
71-43-2	Benzene	5	UD	1	1	5	ug/L
107-06-2	1,2-Dichloroethane	5	UD	1	1	5	ug/L
79-01-6	Trichloroethene	5	UD	1	1	5	ug/L
78-87-5	1,2-Dichloropropane	5	UD	1	1	5	ug/L
75-27-4	Bromodichloromethane	5	UD	1	1	5	ug/L
108-10-1	4-Methyl-2-Pentanone	25	UD	5	5	25	ug/L
108-88-3	Toluene	5	UD	1	1	5	ug/L
10061-02-6	t-1,3-Dichloropropene	5	UD	1	1	5	ug/L
10061-01-5	cis-1,3-Dichloropropene	5	UD	1	1	5	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/22/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/23/16
Client Sample ID:	755015-DUPLICATEDL	SDG No.:	H6277
Lab Sample ID:	H6277-11DL	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

use original results

D

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038184.D	5		01/04/17 15:14	VN010417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	5	UD	1	1	5	ug/L
591-78-6	2-Hexanone	25	UD	9.7	12.5	25	ug/L
124-48-1	Dibromochloromethane	5	UD	1	1	5	ug/L
106-93-4	1,2-Dibromoethane	5	UD	1	1	5	ug/L
127-18-4	Tetrachloroethene	5	UD	1	1	5	ug/L
108-90-7	Chlorobenzene	5	UD	1	1	5	ug/L
100-41-4	Ethyl Benzene	5	UD	1	1	5	ug/L
179601-23-1	m/p-Xylenes	10	UD	2	2	10	ug/L
95-47-6	o-Xylene	5	UD	1	1	5	ug/L
100-42-5	Styrene	5	UD	1	1	5	ug/L
75-25-2	Bromoform	5	UD	1	1	5	ug/L
98-82-8	Isopropylbenzene	5	UD	1	1	5	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	5	UD	1	1	5	ug/L
541-73-1	1,3-Dichlorobenzene	5	UD	1	1	5	ug/L
106-46-7	1,4-Dichlorobenzene	5	UD	1	1	5	ug/L
95-50-1	1,2-Dichlorobenzene	5	UD	1	1	5	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	5	UD	1	1	5	ug/L
120-82-1	1,2,4-Trichlorobenzene	5	UD	1	1	5	ug/L
87-61-6	1,2,3-Trichlorobenzene	5	UD	1	1	5	ug/L
123-91-1	1,4-Dioxane	500	UD	500	500	500	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.4		61 - 141		91%	SPK: 50
1868-53-7	Dibromofluoromethane	48.1		69 - 133		96%	SPK: 50
2037-26-5	Toluene-d8	46.8		65 - 126		94%	SPK: 50
460-00-4	4-Bromofluorobenzene	39.8		58 - 135		80%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	507685	7.86				
540-36-3	1,4-Difluorobenzene	846794	8.77				
3114-55-4	Chlorobenzene-d5	702052	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	233371	13.52				

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
CLINTON WEST PLAZA, ITHACA, NEW YORK

Client: EA Engineering, Science & Technology, Inc., Syracuse, New York
SDG: H6249
Laboratory: Chemtech, Mountainside, New Jersey
Site: Clinton West Plaza, Ithaca, New York
Date: February 6, 2017

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	755015-MMW-03	H6249-01	Water
2	755015-MMW-02	H6249-02	Water
3MS	755015-MMW-02MS	H6249-03MS	Water
4MSD	755015-MMW-02MSD	H6249-04MSD	Water
5	TRIPBLANK	H6249-05	Water

A Data Usability Summary Review was performed on the analytical data for two aqueous samples and one aqueous trip blank sample collected by EA Engineering on December 21, 2016 at the Clinton West Plaza site in Ithaca, New York. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"* and the *Standard Methods for the Examination of Water and Wastewater.*

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260C

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-24, Revision 4, September 2014: Validating Volatile Organic Compounds by SW-846 Method 8260B & 8260C;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries

- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Initial and continuing calibration summaries
- Compound Quantitation
- Internal standard area and retention time summary forms
- Field Duplicate sample precision
- Tentatively Identified Compounds (TICs)

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Four compounds were qualified as estimated in three samples due to high continuing calibration %D values.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

MS/MSD Sample ID	Compound	MS %R/MSD %R/RPD	Qualifier	Affected Samples
2 (3MS/4MSD)	Bromomethane	OK/OK/31	None	None for RPD Alone
	1,1,2,2-Tetrachloroethane	OK/137%/OK	None	Sample ND

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
TRIPBLANK	ND	-	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The following table presents compounds that exceeded 30 percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
12/24/16	Acetone	40.59%	J/UJ	1, 2, 5
	Methylcyclohexane	30.17%	J/UJ	
	2-Hexanone	40.49%	J/UJ	
	1,4-Dioxane	33.33%	J/UJ	

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results were not collected.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/7/17

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	755015-MMW-03	SDG No.:	H6249
Lab Sample ID:	H6249-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID: 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038011.D	1		12/24/16 17:44	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	4.8 J	~~J~~	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1 UJ	~~U~~	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	755015-MMW-03	SDG No.:	H6249
Lab Sample ID:	H6249-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038011.D	1		12/24/16 17:44	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5 UJ	~~U~~	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100 UJ	~~U~~	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	45.4		61 - 141		91%	SPK: 50
1868-53-7	Dibromofluoromethane	47.3		69 - 133		95%	SPK: 50
2037-26-5	Toluene-d8	45.9		65 - 126		92%	SPK: 50
460-00-4	4-Bromofluorobenzene	41.6		58 - 135		83%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	564625	7.86				
540-36-3	1,4-Difluorobenzene	982089	8.78				
3114-55-4	Chlorobenzene-d5	809825	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	286459	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	755015-MMW-02	SDG No.:	H6249
Lab Sample ID:	H6249-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038012.D	1		12/24/16 18:11	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5 UJ	~~U~~	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1 UJ	~~U~~	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	755015-MMW-02	SDG No.:	H6249
Lab Sample ID:	H6249-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038012.D	1		12/24/16 18:11	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5 UJ	~~U~~	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100 UJ	~~U~~	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	44.7		61 - 141		89%	SPK: 50
1868-53-7	Dibromofluoromethane	47.7		69 - 133		95%	SPK: 50
2037-26-5	Toluene-d8	45.9		65 - 126		92%	SPK: 50
460-00-4	4-Bromofluorobenzene	41.6		58 - 135		83%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	536890	7.86				
540-36-3	1,4-Difluorobenzene	934813	8.78				
3114-55-4	Chlorobenzene-d5	768771	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	268205	13.52				

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	TRIPBLANK	SDG No.:	H6249
Lab Sample ID:	H6249-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038007.D	1		12/24/16 15:55	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5 UJ	~~U~~	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1 UJ	~~U~~	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	EA Engineering Science & Technology	Date Collected:	12/21/16
Project:	NYSDEC - Clinton West Plaza	Date Received:	12/22/16
Client Sample ID:	TRIPBLANK	SDG No.:	H6249
Lab Sample ID:	H6249-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN038007.D	1		12/24/16 15:55	VN122516

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5 UJ	~~U~~	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
123-91-1	1,4-Dioxane	100 UJ	~~U~~	100	100	100	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	43.5		61 - 141		87%	SPK: 50
1868-53-7	Dibromofluoromethane	47.2		69 - 133		94%	SPK: 50
2037-26-5	Toluene-d8	46.1		65 - 126		92%	SPK: 50
460-00-4	4-Bromofluorobenzene	40.4		58 - 135		81%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	565848	7.86				
540-36-3	1,4-Difluorobenzene	965964	8.78				
3114-55-4	Chlorobenzene-d5	783924	11.58				
3855-82-1	1,4-Dichlorobenzene-d4	271280	13.52				

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
CLINTON WEST PLAZA, ITHACA, NEW YORK

Client: EA Engineering, Science and Technology, Syracuse, New York
SDG: 1612436A/B
Laboratory: Eurofins Air Toxics, Folsom, California
Site: Clinton West Plaza, Ithaca, New York
Date: February 5, 2017

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	755015-OA-01-122116	1612436-01A/01B	Air
2	755015-IA-01-122116	1612436-02A/02B	Air
3	755015-DUP01-122116	1612436-03A/03B	Air

A Data Usability Summary Review was performed on the analytical data for three air samples collected on December 22, 2016 by EA Engineering at the Clinton West Plaza site in Ithaca, New York. The samples were analyzed under "*Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition January 1999, EPA/625/R-96/010B*", Compendium Method TO-15, "*Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*".

The data have been evaluated according to the protocols and quality control (QC) requirements of the USEPA Region II Data Review Standard Operating Procedure (SOP) Number HW-31, Revision 6, June 2014: Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15 and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Data Completeness
- Cover letter, Narrative, and Data Reporting Forms
- Canister Certification Blanks
- Canister Certification Pressures Differences
- Chains-of-Custody and Traffic Reports
- Holding Times
- Laboratory Control Samples
- Surrogate Spike Recoveries
- GC/MS Tuning
- Method Blank
- Initial Calibration
- Continuing Calibration
- Compound Quantitation

- Internal Standard (IS) Area Performance
- Field Duplicate Sample Precision

Overall Evaluation of Data and Potential Usability Issues

There were no rejections of data.

Overall the data is acceptable for the intended purposes. There were no qualifications.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Cover letter, Narrative, and Data Reporting Forms

- All criteria were met.

Canister Certification Blanks

- The canister certification blanks were free of contamination.

Canister Certification Pressures Differences

- All criteria were met.

Chains-of-Custody and Traffic Reports

- All criteria were met

Holding Times

- All samples were analyzed within 30 days for air samples.

Laboratory Control Samples

- The following table presents LCS percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
1612436-06A	2-Hexanone	131%	None	All Associated ND

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

GC/MS Tuning

- All criteria were met.

Method Blank

- The method blanks were free of contamination.

Field and Trip Blanks

- Feld QC samples were not collected.

Initial Calibration

- All initial calibrations exhibited acceptable %RSD and/or correlation coefficients and average RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	755015-IA-01 ppbv	755015-DUP01 ppbv	RPD	Qualifier
Freon 12	0.47	0.47	0%	None
Freon 11	0.23	0.23	0%	
Ethanol	56	55	2%	
Acetone	11	8.8	22%	
2-Propanol	0.97	0.76	24%	
Hexane	0.33	0.29	13%	
2-Butanone (Methyl Ethyl Ketone)	1.3	0.92	34%	
Heptane	0.34	0.34	0%	
4-Methyl-2-pentanone	0.17	0.15U	NC	
Benzene	0.42	0.41	2%	
Toluene	2.3	2.2	4%	
Tetrachloroethene	0.049	0.048	2%	
Ethyl benzene	0.094	0.091	3%	
m,p-Xylene	0.27	0.27	0%	
o-Xylene	0.12	0.10	18%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/7/17

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

eurofins | Air Toxics

Client Sample ID: 755015-OA-01-122116

Lab ID#: 1612436-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010318**	**Date of Collection:**	**12/22/16 10:00:00 A**
Dil. Factor:	**1.49**	**Date of Analysis:**	**1/3/17 08:37 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.46	0.74	2.3
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.74	4.1	1.4	7.7
Freon 113	0.15	Not Detected	1.1	Not Detected
Acetone	0.74	15	1.8	36
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	0.94	2.3	2.9
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Hexane	0.15	0.35	0.52	1.2
2-Butanone (Methyl Ethyl Ketone)	0.74	11	2.2	32
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
Cyclohexane	0.15	Not Detected	0.51	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.5	Not Detected
Heptane	0.15	0.24	0.61	0.99
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.73	Not Detected
Propylbenzene	0.15	Not Detected	0.73	Not Detected
4-Ethyltoluene	0.15	0.20	0.73	0.99
1,3,5-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,2,4-Trimethylbenzene	0.15	0.20	0.73	0.99
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.77	Not Detected

NW 2/5/17

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Client Sample ID: 755015-OA-01-122116

Lab ID#: 1612436-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20010318	Date of Collection:	12/22/16 10:00:00 A
Dil. Factor:	1.49	Date of Analysis:	1/3/17 08:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130

NW 2/5/17

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Client Sample ID: 755015-OA-01-122116

Lab ID#: 1612436-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20010318sim	Date of Collection:	12/22/16 10:00:00 A
Dil. Factor:	1.49	Date of Analysis:	1/3/17 08:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.030	Not Detected	0.16	Not Detected
Benzene	0.074	0.42	0.24	1.3
1,2-Dichloroethane	0.030	Not Detected	0.12	Not Detected
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Toluene	0.030	1.2	0.11	4.6
1,1,2-Trichloroethane	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	0.030	0.20	0.20
Ethyl Benzene	0.030	0.20	0.13	0.89
m,p-Xylene	0.060	0.83	0.26	3.6
o-Xylene	0.030	0.26	0.13	1.1
1,1,2,2-Tetrachloroethane	0.030	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 755015-IA-01-122116

Lab ID#: 1612436-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010319**	**Date of Collection:**	**12/22/16 10:08:00 A**
Dil. Factor:	**1.57**	**Date of Analysis:**	**1/3/17 09:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.47	0.78	2.3
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.1	Not Detected
Freon 11	0.16	0.23	0.88	1.3
Ethanol	0.78	56	1.5	100
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.78	11	1.9	25
2-Propanol	0.78	0.97	1.9	2.4
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Hexane	0.16	0.33	0.55	1.1
2-Butanone (Methyl Ethyl Ketone)	0.78	1.3	2.3	3.8
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.99	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.7	Not Detected
Heptane	0.16	0.34	0.64	1.4
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	0.17	0.64	0.70
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.77	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected

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Client Sample ID: 755015-IA-01-122116

Lab ID#: 1612436-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010319**	**Date of Collection:**	**12/22/16 10:08:00 A**
Dil. Factor:	**1.57**	**Date of Analysis:**	**1/3/17 09:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 755015-IA-01-122116

Lab ID#: 1612436-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010319sim**	**Date of Collection:**	**12/22/16 10:08:00 A**
Dil. Factor:	**1.57**	**Date of Analysis:**	**1/3/17 09:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Benzene	0.078	0.42	0.25	1.3
1,2-Dichloroethane	0.031	Not Detected	0.13	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Toluene	0.031	2.3	0.12	8.6
1,1,2-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.049	0.21	0.33
Ethyl Benzene	0.031	0.094	0.14	0.41
m,p-Xylene	0.063	0.27	0.27	1.2
o-Xylene	0.031	0.12	0.14	0.50
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

NW 2/5/17

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Client Sample ID: 755015-Dup01-01-122116

Lab ID#: 1612436-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010320**	**Date of Collection: 12/22/16**	
Dil. Factor:	**1.47**	**Date of Analysis: 1/3/17 09:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.47	0.73	2.3
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
1,3-Butadiene	0.15	Not Detected	0.32	Not Detected
Bromomethane	0.74	Not Detected	2.8	Not Detected
Chloroethane	0.74	Not Detected	1.9	Not Detected
Freon 11	0.15	0.23	0.82	1.3
Ethanol	0.74	55	1.4	100
Freon 113	0.15	Not Detected	1.1	Not Detected
Acetone	0.74	8.8	1.7	21
2-Propanol	0.74	0.76	1.8	1.9
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.29	Not Detected	1.0	Not Detected
Hexane	0.15	0.29	0.52	1.0
2-Butanone (Methyl Ethyl Ketone)	0.74	0.92	2.2	2.7
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.72	Not Detected
Cyclohexane	0.15	Not Detected	0.50	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.92	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.4	Not Detected
Heptane	0.15	0.34	0.60	1.4
1,2-Dichloropropane	0.15	Not Detected	0.68	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.98	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.60	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.72	Not Detected
Propylbenzene	0.15	Not Detected	0.72	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.72	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.72	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.76	Not Detected

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Client Sample ID: 755015-Dup01-01-122116

Lab ID#: 1612436-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**20010320**	**Date of Collection: 12/22/16**	
Dil. Factor:	**1.47**	**Date of Analysis: 1/3/17 09:59 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.4	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.8	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

NW 2/5/17

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Client Sample ID: 755015-Dup01-01-122116

Lab ID#: 1612436-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20010320sim	Date of Collection:	12/22/16
Dil. Factor:	1.47	Date of Analysis:	1/3/17 09:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.058	Not Detected
1,1-Dichloroethane	0.029	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.029	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.029	Not Detected	0.16	Not Detected
Benzene	0.074	0.41	0.23	1.3
1,2-Dichloroethane	0.029	Not Detected	0.12	Not Detected
Trichloroethene	0.029	Not Detected	0.16	Not Detected
Toluene	0.029	2.2	0.11	8.5
1,1,2-Trichloroethane	0.029	Not Detected	0.16	Not Detected
Tetrachloroethene	0.029	0.048	0.20	0.32
Ethyl Benzene	0.029	0.091	0.13	0.39
m,p-Xylene	0.059	0.27	0.26	1.2
o-Xylene	0.029	0.10	0.13	0.45
1,1,2,2-Tetrachloroethane	0.029	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.53	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

NW 2/5/17

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Appendix E

Institutional/Engineering Control Certification